OFFICIAL SPONSOR
AUSTRALIA'S DEFENCE
AMERICA'S
CUP 1987

HOLDEN

COMMODORE AND CALAIS

OWNER'S HANDBOOK
VL SERIES

Owner's Name ....

Address ....

Town ....

State ....Postcode ....

Vehicle Identification Certificate

Model Name ....

Reg. No. ....Eng. No. ....

Vehicle Identification No. (V.I.N.) ....

Date of Purchase ......Odometer Reading ......

Selling
Dealer's
Stamp &
Signature ....

CHANGE OF ADDRESS/OWNERSHIP

GMH requests that owners who change their address (or name) or subsequent owners who purchase this vehicle, complete and return by mail one of the forms on page 123.

This notification is important even after the expiration of the original vehicle warranty in order that GMH will be able to contact you should the need arise.

Part No. 92032249
Aug 1986 (PRINT 3)

We thank you for choosing Holden and want to assure you of our continuing interest in your motoring pleasure and satisfaction.

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—familiarise yourself with the conditions

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This handbook applies to all VL Series models and therefore may contain explanations of some equipment not installed in your vehicle.

All information, illustrations and specifications in this handbook are based on the latest product information available at the time of printing. General Motors-Holdens Limited reserves the right to make changes at any time without notice and without incurring any obligation.

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—PART B describes use of the heating, ventilation and air conditioning systems .... page 22

—PART C shows the instruments fitted to the different models and explains their functions .... page 26

Section 2—*"STARTING AND DRIVING CONTROLS"* .... page 37

Please read section 1 to familiarise yourself with your car, before proceeding to this section. This describes the use of automatic and manual gear shifts, as well as the starting procedure and explanation of the ignition lock. There are also some precautions and fuel consumption notes.

Section 3—*"ACCIDENTS AND EMERGENCIES"* .... page 47

—PART A shows what to do at the scene of an accident, including giving medical assistance .... page 48

—PART B has some emergency procedures, including wheel changing, starting when the battery is flat, engine overheating, manual raising of Calais headlight 'eyelids' and vehicle towing .... page 50

Section 4—*"WARRANTY AND CUSTOMER ASSISTANCE"* ...... page 60

This sets out the terms of your warranty, explains what to do if you need customer assistance and lists the GM-H dealerships all over Australia.

Section 5—*"BASIC MAINTENANCE"*. . . . . page 76

As well as taking your car in for a service, there are a few simple checks that the owner must make. These are clearly shown and illustrated. They include checking the oil, water and automatic transmission fluid levels. It also shows how to top up the washer fluid and check your tyres.

Section 6—*"MAINTENANCE SCHEDULE"*. page 86

This shows when your vehicle requires servicing and what is done at each service. Also included are the coupons that are used when you take your vehicle to a GM-H dealership to be serviced.

Section 7—*"CARAVAN AND TRAILER TOWING"*. . . . . page 126

This has general guidelines regarding additional equipment to be used when towing—as well as loading capacities and safe towing tips.

Section 8—*"GENERAL MAINTENANCE"*. page 132

Extra servicing information.

Section 9—*"SPECIFICATIONS AND EMISSION CONTROL"*. . . . page 151

This lists specifications, capacities and general replacement parts, including oils, bulbs, tyres, fuses, etc. Also included is information relating to the emission control features fitted to your vehicle.

Section 10—*"APPEARANCE CARE"*. . . . . page 162

Listed are the cleaning agents (and their applications) that you should use to look after the exterior and interior of your car.

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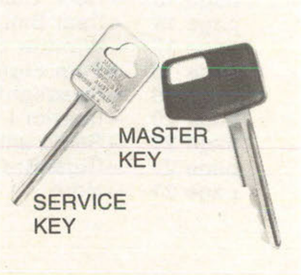
1A—'Know Your Car'—KEYS AND LOCKS

KEYS

Your Commodore or Calais is fitted with a two key locking system which provides security for personal valuables when parking in car parks or similar areas where locking of the vehicle is not permitted.

Master Key



Master key (plastic head) is retained by the driver and operates all locks on the vehicle.

The key code number is stamped on the Plastic Key Head. Before placing the key on your key ring, record the code number and place it is a safe place so that if the key is lost, duplicates can be ordered from any GM-H Dealer by quoting the key code number.

Service Key

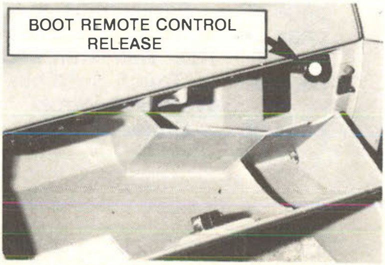
Service key (square head) is left with the vehicle when it is parked in those areas described above and only operates the door locks and ignition switch. This enables the vehicle to be moved if required but does not allow entry to the glove box or boot.

Remote Control Boot Release

In addition to the mechanical lock release, the boot lid may be provided with an electrically operated release system.

The boot lock may be released by depressing the push button switch located inside the glove box.

NOTE: If you leave your vehicle in a car park with the Service Key, ensure that the glove box is locked so that access to the boot via the remote control lock button is prevented.



Sedan Boot Lock

To unlock, turn the key clockwise. The lid opens automatically. The boot lid locks automatically when pushed shut.

Glove Box

To lock, insert the key, rotate clockwise one half of a turn and then withdraw.

To unlock, insert the key and rotate anti-clockwise one half of a turn.

To open, squeeze the two slides of the catch together and pull towards you. To close, push lid firmly back into place. This will engage the catch.

Fuel Cap Lock (Where Fitted)

Lock or unlock with master key.

To unlock fuel cap, insert key and turn anti-clockwise. The cap can now be removed by turning in anti-clockwise direction.

Reinstall cap by turning clockwise until stop is reached. Lock cap by turning key in clockwise direction.

Refer to the inside Rear Cover of this book for more details when refilling.

Wagon Tailgate Lock

To open the tailgate, insert the key and turn clockwise. Remove the key and push the button to open. Gas struts will automatically lift the door to the fully open position. The door should be relocked when it is closed again.

CAUTION: To prevent entry of dangerous exhaust fumes into the passenger compartment, the sedan boot lid and the wagon tailgate should be closed during vehicle operation. However, if it is necessary to leave the tailgate or boot open while transporting bulky cargo, all windows must be closed to avoid vacuum build-up. Open fresh air heater vents and switch to highest blower speed.

1A—'Know Your Car'—DOOR LOCKS

Manual

From Outside:

- Both front doors can be locked or unlocked with either key. To open doors, unlock with key then lift door handle.
- To lock doors without using key, move the slider lock control to the **'lock'** position then close the door.

  NOTE: The slider control is in the **'lock'** position when the red section of the slider is no longer visible.

From Inside:

- To lock doors, move the slider to the 'lock' position.
- To open door, move the slider to the unlocked position (red) before pulling the door handle.

Electric (Where Fitted)

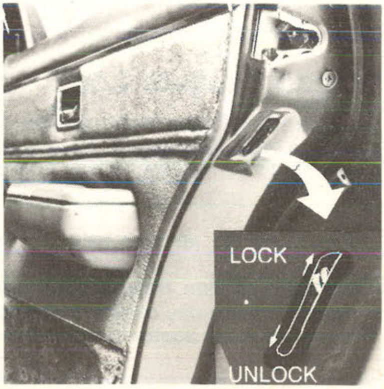
The Electric Lock System incorporates a motor driven actuator in all doors which will lock and unlock simultaneously when the driver's or front passenger's door is locked or unlocked either with the inside locking switch or the key from outside.

Door locks may be operated manually in the conventional manner. The door lock system has an overload safety control which may render it inoperative. After a short delay, the overload safety control will automatically reset and allow the system to function normally again provided the overload condition does not still exist.

Rear 'Child Proof' Door Locks

This added safety feature is built into both rear door locks. To operate it raise the lever as far as it will go and close the doors. The door cannot be opened from inside, regardless of the locking position. To unlock, open the door from outside and slide the lever back down.

CAUTION: For safety, you should check that the lock is operating correctly, after setting, by attempting to open the door from the inside of the vehicle.



1A—'Know Your Car'—ANTI-THEFT SYSTEM (where fitted)

features—automatic door locking
—disconnection of ignition system
—theft alarm

The anti-theft system fitted to your car is switched on by depressing the button on the remote controller and holding it down until the four turn signals on your car flash TWICE, indicating that the system is operational. A small red light on the controller next to the button will illuminate when the button is depressed, indicating that the signal is transmitting to the car.

As soon as the car receives the signal from the controller (it will not receive if the ignition is turned on) all the doors will lock and the ignition will be deactivated—so that the car cannot be started with the ignition key.

Approximately 30 seconds after the car's turn signal lights flash twice, the theft alarm becomes operational (the delay gives you time to re-close a door if not fully shut). The alarm is triggered when there is a change in battery current. If a door, boot or bonnet is opened, the respective courtesy light will come on, changing the battery current and so triggering the alarm . . . regularly check for blown light bulbs! Once triggered, a loud pulsating alarm will sound and all four turn signals will flash. After 60 seconds, the noise and lights will switch off and the alarm will reset—to guard against a further attempt by the thief to enter the car.

TO SWITCH OFF the system, depress the button on the remote controller and hold it down until the turn signal lights on the car flash ONCE. This indicates that the alarm is switched off, the ignition circuit is reconnected and doors are unlocked.

OVERRIDE KEY

In the glovebox (on the right of the boot release button) is an override switch for the alarm. Two keys are originally provided. Record the number. Keep one key in a safe place and the other for ready use (it is advisable not to put it on your key ring because if your car keys fall into the wrong hands so will the override key for your alarm). Turning the switch in the glovebox anticlockwise with the key will override the alarm system and reconnect the ignition circuit should the remote controller be lost or malfunction due, for example to a flat battery. Insert the key and turn anti-clockwise. The remote controller will not then operate—until the key is again inserted and turned clockwise.

NOTES

The remote controller is powered by a standard 12V Zinc-Carbon Supercell battery, model GP23 or equivalent (National RV08). With normal usage this should last between 6 and 9 months. A flat battery in the remote controller is indicated by loss of range when operating the remote controller. The battery should then be replaced. This will be checked for you when your car is serviced at your GMH Dealer, provided you leave the remote controller with the car.

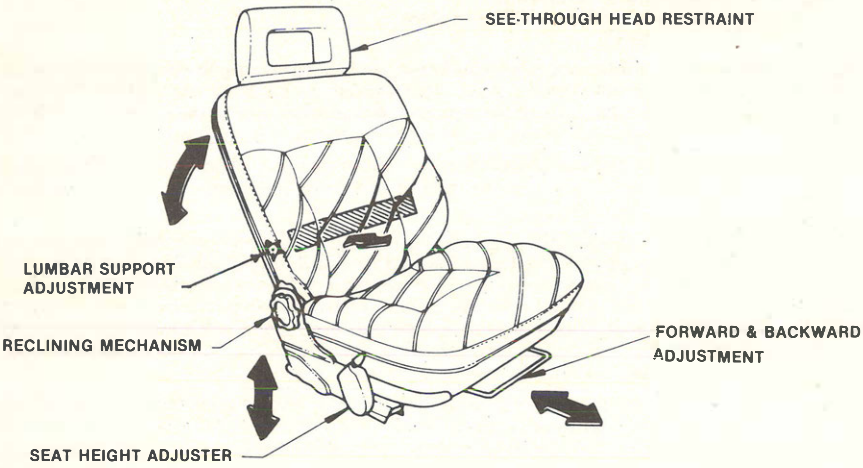
Batteries can be obtained from your Dealer or shops stocking electronic cigarette lighter batteries. Split the case open with a finger nail by the indent mark on the side of the case. Insert a new battery by tilting (-) end in first, taking care that it corresponds to the (-) mark on the case.

Two remote controllers are originally provided. Both have the same identification number. Please record the number and remove the label. Keep one controller in a safe place (with the spare override key) and the other for everyday use. Again, do not put the controller on your car's key ring because if the car keys fall into the wrong hands so will the device for de-activating your alarm.

In the event of loss or damage a replacement can be ordered from a GM-H dealer. He will require proof of ownership and the serial number of the remote controller.

If your car fails to start, but the engine cranks over, first check that you have not accidentally turned the system on with the remote controller. If starting still fails, turn the override key anti-clockwise and try again before calling service personnel. If it then starts, drive to your GM-H Dealer and have the system checked.

1A—'Know Your Car'—FRONT SEAT ADJUSTMENTS


SEE-THROUGH HEAD RESTRAINT
LUMBAR SUPPORT ADJUSTMENT
RECLINING MECHANISM
FORWARD & BACKWARD ADJUSTMENT
SEAT HEIGHT ADJUSTER

Forward and Backward Setting

Lift the bar at the front of the seat upwards then slide the seat to the desired position. Release the bar. Try to move the seat back and forth to check that the catch is fully engaged. Adjustment should not be made when the vehicle is moving. The seat could move suddenly and cause the driver to lose control of the vehicle.

Seat Height Adjustment

The driver's seat height is adjustable by extending the telescopic lever on the seat's outer side and then moving lever as follows:

To lower seat—move lever downwards.
To raise seat—move lever upwards.

Reclining Back Control

The reclining back is controlled by a large toothed wheel at the bottom of the outer side of the seat. By turning the wheel, the reclining position of the seat can be changed through a large angle. The seat back will move in the same direction as the top of the wheel.

CAUTION: To avoid reducing the effectiveness of seat belts it is recommended that reclining seats be used in no more than a semi-reclined position when the vehicle is moving. The fully reclined position should be used only when the vehicle is stationary.

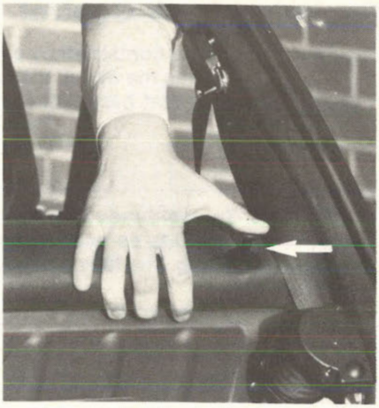
Lumbar Support (Where Fitted)

This feature is fitted to the driver's seat only and is adjusted by turning the toothed wheel located on the right side of the seat back. The lumbar support can be adjusted to suit the degree or seat firmness that you require to support the middle of your back.

Head-Restraint

This safety feature is not intended to be used as a headrest. It is solely for the reduction of possible injury that may result from a whip-lash neck movement following a vehicle collision. The head restraints are not adjustable in height.

1A—'Know Your Car'—STATION WAGON FOLDING REAR SEAT



The rear seat may be converted even when the front seat is adjusted to the rearmost position.

Step 1 —To unlock the safety catches, depress either of the buttons located on the upper edge of the back of rear seat.

Step 2 —The seat back can then be pulled forward allowing the spring hinged floor extension to automatically fold forward.

Step 3 —By pressing the seat-back downwards to compress the seat crushions, the hinged floor extension will drop into place. Apply pressure to the extension and it will lock into its correct position.

To return the rear seat to its normal position, 1: press down on the leading edge of the seat back and lift the hinged floor extension. 2: with the extension lifted raise the seat back into its position. Ensure that the seat back is secure in the lock position on both sides and that the seat belts are free of the seat back.

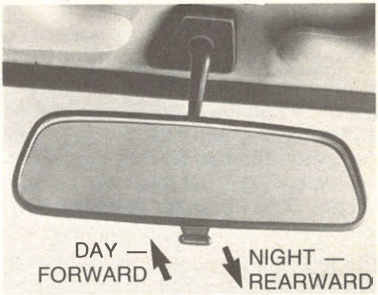
CAUTION: When converting the rear seat always avoid standing on the driver's side of the vehicle if the vehicle is parked at the kerb. Failure to do so could result in personal injury from passing vehicles.

1A—'Know Your Car'—MIRRORS

Inside Mirror

The control lever on the lower edge of the mirror enables reduction of the headlight glare from following vehicles when driving at night.

During normal daylight operation, the lever should be set forward away from driver. To reduce the glare at night, pull the lever towards the driver.

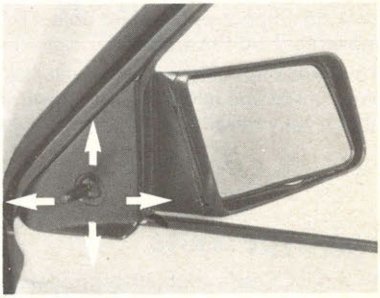


Outside Mirror

This mirror for the driver's door is controlled by the stalk that is located on the inside of the driver's door. A like mirror is fitted to the passenger's door and is similarly controlled.

The angle of the mirror can be controlled by moving the stalk. The change of angle of the mirror is in the same direction as the control movement. When selecting the most suitable angle for the mirror, ensure that the driver's head is in the normal position for driving then adjust the mirror angle to suit.

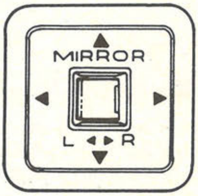
NOTE: Refer to page 142 to reset if 'Knocked'.



Outside Mirror—Electrically Controlled (Where Fitted)

Adjustment of these mirrors is achieved via a remote control switch mounted to the right of the steering column.

Left/Right mirror selection is by means of a toggle switch located centrally within the main switch. Mirror adjustment is achieved by depressing the surrounding rim in the direction indicated by the arrows. To operate the mirrors the ignition key should be in the 'ACC' or 'ON' position.



SEAT BELTS

Retractor Belts

To put on a retractor seat belt, pull the metal tongue across your body and clip it into the buckle. When the metal tongue has locked safely into place you will hear a "click". After fastening, settle the belt by running your hand under the belt starting at the hip, go across to the buckle, then up under the sash. Any extra belt length will retract automatically.

The lap section should be worn as low as possible on your hips, not on your waist. Make sure the sash and lap sections of the seat belt are free from twists and are fitting firmly.

The emergency-locking retractor belt allows you to move freely while the vehicle is travelling normally. The belt will lock immediately on fast braking, impact with a solid object or any quick movement by the wearer.

To release the belt, press the release button on the buckle and allow the belt to retract. Check that it fully retracts without twisting or turning.

Lap-Type Belts

To adjust: Settle yourself comfortably. Bring the tongue adjuster across your body and clip it into the buckle. When the metal tongue has locked safely into place you will hear a "click". Make sure the belt is fitting firmly across the lower hip area and not across your waist.

To shorten: Tilt the tongue adjuster and pull the belt through the belt adjuster.

To lengthen: Tilt the tongue adjuster and pull the belt from just below the finger grip bar.

Maintenance of Seat Belts

- Check seat belts regularly. Replace the belts if they become frayed or damaged. The buckle and retractor mechanism operations should also be checked. Your GM-H Dealer will do these things as part of the schedule maintenance plan.
- Seat belts must be replaced if they have been in use during a severe impact—even if there is no obvious damage.
- Clean belts only with a solution of mild soap and lukewarm water. Never use bleach.

INFANT AND CHILD RESTRAINTS

CHILDREN SHOULD BE RESTRAINED AT ALL TIMES WHEN RIDING IN A MOTOR VEHICLE.

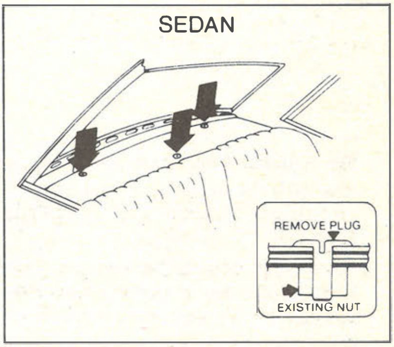
In some states it is Law that children must be belted in, whenever they are travelling in a vehicle in which seat belts are installed. CHILDREN ABLE TO SIT UP should be restrained with the regular seat belt or an approved child restraint.

Where children are restrained with the regular seat belt and it is desired to raise their seating position this is to be done only by means of a support which is retained by the belt. NEVER USE A LOOSE CUSHION AS THIS COULD ALLOW SERIOUS INJURY IN THE CASE OF VEHICLE COLLISION.

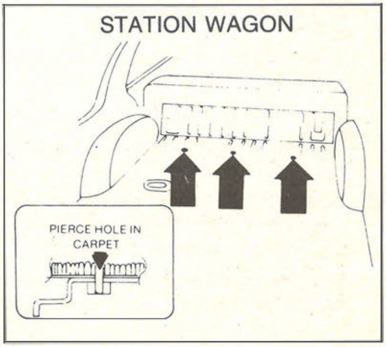
Child Restraint Anchorages

Your vehicle is fitted with upper anchorage points for child restraints and these are located as follows:

Sedan
Anchorage points are located on the rear window ledge. Remove the plugs and install child restraints with the correct anchor bolts.



Wagon
Anchorage points are located on the floor behind the rear seat. Remove the plugs and install child restraints with the correct anchor bolts.



SEAT BELTS cont.

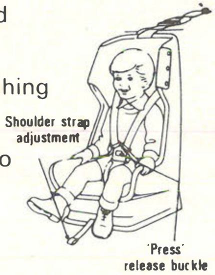
WARNING: Child restraint anchorages are designed to withstand only those loads imposed by correctly fitted child restraints. Under no circumstances are they to be used for adult seat belts or harnesses.

Only approved child restraint harnesses should be used on anchorage points. See your GM-H Dealer for advice about the various types of approved child restraints available.

INFANTS UNABLE TO SIT BY THEMSELVES should be carried in a padded bassinet or carry basket placed across the back seat.

A suitable type of bassinet restraining system should be used.

The GM Child Love Seat is designed for children weighing 9 to 19 kg, up to 1 metre in height, who are able to sit up alone.



WARNING: Seat belts are designed to bear upon the bony structure of the body, and should be worn low across the front of the pelvis, or the pelvis, chest and shoulders, as applicable; wearing the lap section of the belt across the abdominal area must be avoided.

Seat belts should be adjusted as firmly as possible, consistent with comfort, to provide the protection for which they have been designed. A slack belt will greatly reduce the protection afforded to the wearer.

Care should be taken to avoid contamination of the webbing with polishes, oils and chemicals, and particularly battery acid. Cleaning may safely be carried out using mild soap and water. The belt should be replaced if webbing becomes frayed, contaminated or damaged.

It is essential to replace the entire assembly after it has been worn in a severe impact even if damage to the assembly is not obvious.

Belts should not be worn with straps twisted.

Each seat belt assembly must only be used by one occupant; it is dangerous to put a belt around a child being carried on the occupant's lap.

No modifications or additions should be made by the user which will either prevent the seat belt adjusting devices from operating to remove slack, or prevent the seat belt assembly from being adjusted to remove slack.

The positioning of the tongue restrictor must never interfere with, or stop, the belt from fully retracting.

1A—'Know Your Car'—WINDOW CONTROLS

Manual

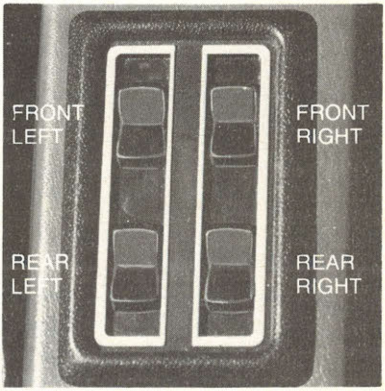
The door windows are lowered or raised by turning the winders which are fitted to each door.

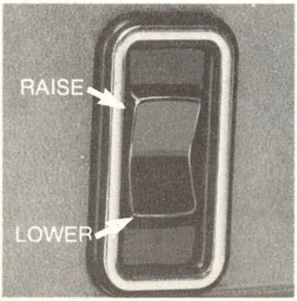
Power (Where Fitted)

- Operational only when the ignition key is in the 'ON' position.

The master control for the windows is fitted in the console. Both rear door windows can also be operated by individual switches located in the doors. An isolation switch (the large knob) located on the lower section of the instrument panel to the right of the steering column will override and isolate the rear window switches. The power window system has an overload circuit breaker which may render it inoperative. After a short delay, the circuit breaker will automatically reset and allow the system to function normally again, provided the Overload condition does not still exist.

Main Control Panel (fitted in console)
To Raise—Push forward section of respective switch.
To Lower—Push rearward section of respective switch.





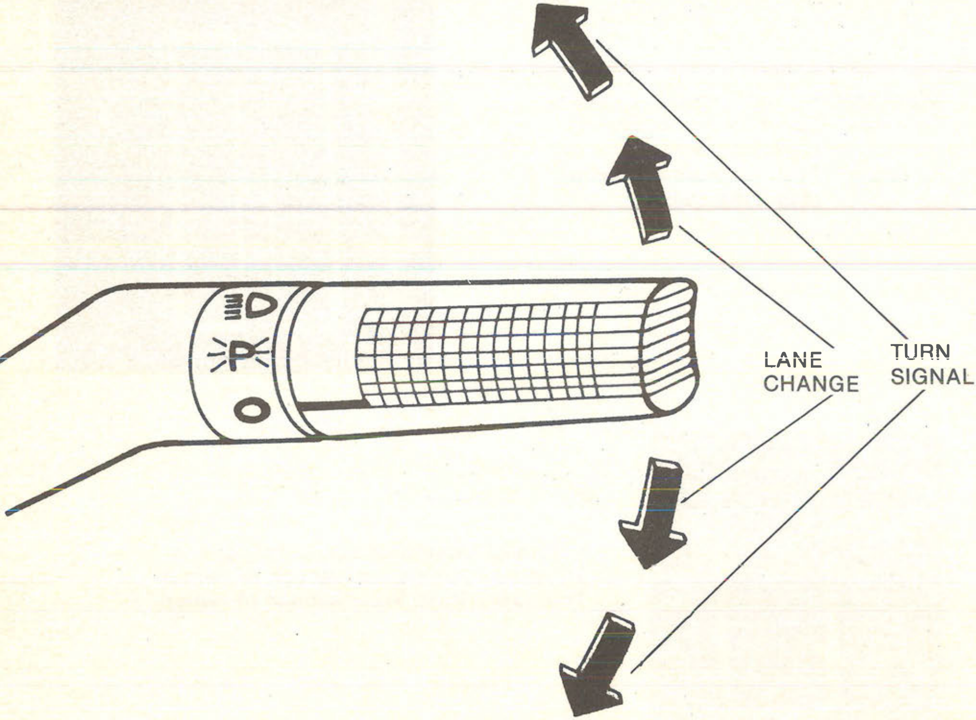
Individual Controls (fitted in rear doors)
To Raise—Push upper section of switch.
To Lower—Push lower section of switch.

TURN SIGNALS

The turn signals are operated from the lever mounted on the right side of the steering wheel column. The lever is pushed up to signal a left turn, and down to signal a right turn. The lever will return to the neutral position when the turn is completed.

In some turns (such as changing lanes) the steering wheel is not turned far enough to cancel the turn signal. To indicate a lane change, move the lever part way and hold. The lever will return to the neutral position when you release it.

A green light on the instrument panel (refer page 31) will flash when the lights are in operation This is accompanied by a clicking sound.



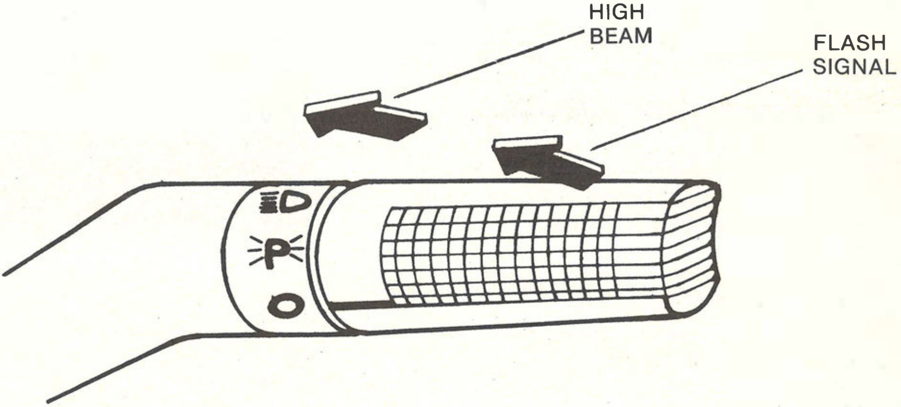
1A—'Know Your Car'—HEADLIGHTS

The control for the headlights and parking lights is incorporated in the lever, mounted on the right side of the steering wheel column.

The end section of the lever rotates to 3 positions. The lower marker is the OFF position, the middle is for the parking lights and the top marker is for the headlights. Line the marker on the non-rotating section with the required light marker on the rotating section.

High Beam Operation

With the headlights on, pull the lever towards you until you hear a click, then release it. The headlights will change from low-beam to high-beam or from high-beam to low-beam. When the high-beams are on, a blue light located on the instrument panel will glow. It is also possible to flash the high-beam for signalling purposes, with the headlight switch turned off, by moving the lever towards you. A light resistance will be felt at the flash position. Further movement towards you will cause the dip switch to operate. The light will remain on high-beam as long as the lever is held.



1A—'Know Your Car'—INTERIOR LIGHTS

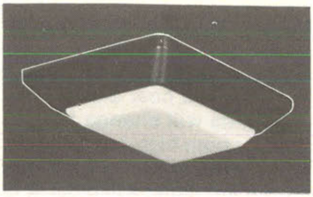
BOOT LIGHT

The boot light will come on when the lid is opened, independent of exterior lights.

ENGINE COMPARTMENT LIGHT (where fitted)

This light is provided to illuminate the engine compartment when the park or headlights are on.

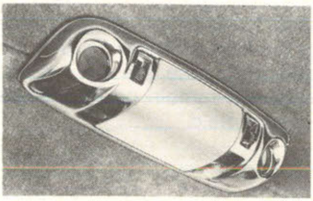
COURTESY LIGHT



The interior roof courtesy light will automatically come on when any door is opened but may also be operated manually when all the doors are closed. This is done with the thumb wheel located to the right of the steering column. Rotate the thumb wheel fully up, to turn the courtesy light on. This wheel also controls the brightness of the instrument lights, so when turning the courtesy light 'off', turn it past the first 'stop' and adjust the instrument lighting as required.

COURTESY/READING LIGHT

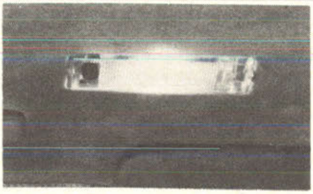
(where fitted)



Operation is the same as above. In addition, each light has individual controls.

REAR READING LIGHTS

(where fitted)



The rear seat reading lights are mounted on each side next to the grip handles and are activated by individual switches mounted on each light.

GLOVE COMPARTMENT LIGHT

The light in the glove compartment comes on automatically whenever the glove compartment lid is opened.

REVERSING LIGHTS

The two reversing lights provide illumination behind the vehicle when the transmission shift lever is placed in reverse and ignition is turned on. They provide a visible signal to other drivers and pedestrians that the vehicle is operating or about to be operated in reverse gear.

—RADIO
—CIGARETTE LIGHTER
—MANUAL ANTENNA
—HORN

RADIO/CASSETTE

Refer to the operating instuction supplement in your glovebox for all information relating to the operation of your radio.

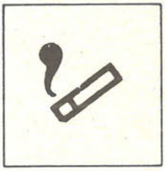
MANUAL ANTENNA

To extend this antenna from its fully closed position you must use the special key provided. Insert the key into the slots and then use the key to withdraw the top section of the antenna. All sections can then be fully extended for maximum distance reception.

Power Antenna refer page 34.

CIGARETTE LIGHTER

The cigarette lighter is activated only when the ignition switch is in the "ON" or "ACC" positions. To operate, simply press in the lighter knob. When the element is hot the lighter will automatically pop back to its original position ready for use.



HORN

The horn is operated by pressing the pad in the centre of the steering wheel. The horn can be operated at any time regardless of the ignition switch position.

1B—'Know Your Car'—VENTILATION & HEATING (without air conditioning)

The ventilation and heater controls consist of a multi speed fan switch which regulates the rate at which air is delivered through the various outlets, and two sliding levers. The left lever controls the temperature of air and the right lever selects the particular mode required.

The mode lever has six positions:

demist	Directs outside air onto the windscreen via the outlets on top of the instrument panel. The air temperature is controlled by the temp. lever.
floor	Directs outside air to the floor outlets. The temperature of the air is controlled by the temp. lever.
vent	Directs outside air to both the centre and side outlets of the instrument panel. The temperature of the air is controlled by the temp. lever.
bi-level	Directs outside air to the centre and side outlets of the instrument panel, as well as to the floor outlets. Heated air will be directed to the feet, and cooler air will be directed to the centre and side outlets. The temperature of the air is controlled by the temp. lever.
re-circulate	No outside air is admitted through the outlets—cabin air is recirculated and directed back through the centre and side vents. The temperature of the air is controlled by the temp. lever. Use this setting when driving through airborne dust eg. when following another vehicle in dry, un-sealed roads, or to prevent unwanted vehicle exhaust fumes from entry into the car. Make sure windows are closed, and preferably have the fan on a high speed.

NOTE: When driving on un-sealed roads but where the dust is not airborne, use vent or bi-level (with the windows closed) so that positive air pressure in the cabin will prevent any dust entry.

OFF	Switches the fan off and no outside air is admitted into the cabin via the outlets. When the lever is moved away from the off position the fan will automatically switch on.

The temperature of the air directed through all the outlets is controlled by the temp. lever. The top, red area gives maximum heating and the lowest blue area is for maximum cold air. Warm or cool air is achieved by moving the temp. lever away from the extreme edges.

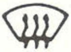
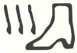
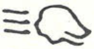
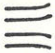
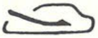
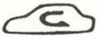
1B—'Know Your Car'—VENTILATION, HEATING AND AIR CONDITIONING

This has 3 separate controls:

- multi speed fan switch which regulates the rate at which air is delivered through the various air outlets.
- temperature (left hand) lever. The top, red area gives maximum heating and the lowest blue area is for maximum cold air. Warm or cool air is achieved by moving the temp. lever away from the extreme edges.
- mode (right hand) lever determines which outlets the air is directed to. The re-circulation and off modes do not direct outside air into the car. All the other modes draw air in from outside the car.

NOTE: The air conditioner compressor will not operate when the mode lever is in the floor, vent or off modes. This reduces fuel consumption when refrigerated air is not needed.

In the other modes, air is cooled via the air conditioning system to reduce humidity and dust. It is then reheated to the setting chosen on the temp. lever before entering the car.

demist 	Directs air onto the windscreen via the outlets on top of the instrument panel to demist the windscreen.
floor 	Directs air to the floor outlets.
vent 	Directs air to the centre and side outlets, located in the instrument panel. The air flow direction can be adjusted at each outlet. This position can be used in mild conditions when no cooling is required. You should only use the 'off' position when the windows are open.
bi-level 	Warm air is directed at the feet and cooler air to the centre and side outlets, located in the instrument panel.
outside 	Directs outside, refrigerated air to the centre and side outlets, located in the instrument panel. This setting is used for most cooling needs on hot days.
re-circulate 	The cabin air is re-circulated through the air conditioning system and directed back through the centre and side vents, located in the instrument panel, therefore giving maximum cooling on hot days (with the windows closed). However no outside air is admitted to the car when in this mode, so when using this 'quick cool down' the driver should return to the outside mode once the interior temperature has reached an acceptable level.
OFF	Switches the fan off and no outside air is admitted into the cabin via the outlets. The fan will automatically switch on when the mode lever is moved away from the off position.

1B—'Know Your Car'—AIR CONDITIONING OPERATING NOTES

HIGH INTERIOR TEMPERATURE—When first entering the vehicle on a hot day, there are two methods that can be used to quickly reduce the hot cabin air.

a) select 'outside' and open the windows to allow the hot air to escape. After driving in this mode for a short time, wind up the windows (the air conditioning works more efficiently with the windows up).

b) select 're-circulation' with the windows closed. Remember to return to 'outside' when the temperature has reached an acceptable level as no outside air will be admitted to the cabin when in this mode.

FOGGED UP SIDE WINDOWS—If the side windows fog up on a cold day, select a warm setting with the temp. lever and bi-level or outside mode. This will circulate warm, dehumidified air throughout the cabin, defogging the windows.

DUSTY CONDITIONS—When driving through airborne dust eg. when following another vehicle in dry, unsealed road conditions, or to prevent unwanted vehicle exhaust fumes from entry to the car, select 're-circulate' position. Make sure windows are closed and preferably have the fan on a high speed.

When the dust is not airborne, use 'outside' or 'bi-level' (if air conditioning is required) or 'vent' (if air conditioning is not required). The windows should be closed so that positive air pressure in the interior will reduce any dust entry that may occur.

NOTE: Outside air is used in all mode except 're-circulate' and 'off'. Do not operate in these modes for long periods as no outside air is admitted to the vehicle unless the windows are opened.

CIGARETTE SMOKE—If occupants are smoking, it is recommended that 're-circulation' mode NOT be used, as residues from the tobacco smoke adhere to the air ducts and will produce stale smelling air.

AUTOMATIC TRANSMISSION—If your vehicle is stopped for long periods in hot weather with the engine running and the air conditioner operating, select 'neutral' or 'park'. This will increase your engine speed which in turn aids engine cooling and air conditioner performance.

The air conditioner operates most efficiently when all the windows are closed.

IMPORTANT

—Once every two weeks, with the engine running, switch the air conditioner on by selecting either Demist, Bi-level, Norm, or Outside mode. The unit should be run for at least 5-10 minutes, even in Winter.

This will lubricate the air conditioning system and prevent the seals from drying out.

1B—'Know Your Car'—VENTS

Your vehicle features a flow-through ventilation system which will operate with all the windows closed.

Outside air enters the vehicle through the grille in front of the windscreen, so do not allow this to be covered or clogged with leaves, snow, etc. The air then passes through the heater or air-conditioning system (if fitted) and enters the passenger compartment via the different vents. After passing through the passenger compartment the stale air is then exhausted from the vehicle through two extractor vents. In sedan models these are located on the rear body pillar and in wagon models they are located in the roof near the tailgate hinges.

There are four main types of vents—demister, floor, centre and side. The amount and temperature of air passing through any of the vents is regulated with the console controls. In addition, the centre and side vents have individual air flow angle adjustment. The demister and floor vents are 'fixed' as these direct air to the windscreen or onto the feet and legs in the best possible way.

Centre Vents

With these vents it is possible to control the direction and flow of the air exiting from the centre of the instrument panel.

The air can be directed as required by tilting the vent inserts and swivelling the vanes.

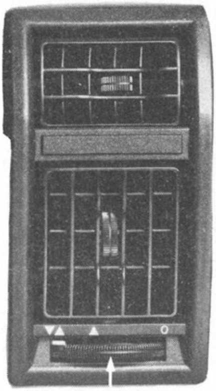
Side Vents

With these vents it is possible to control the direction and flow of the air exiting from each end of the instrument panel.

The air flow can be directed as required by tilting the vent inserts and swivelling the vanes. The upper vents in particular are suitable for demisting side windows.

The air supply is controlled by the regulating wheel which is situated below the lower vent.

▼▲	With the regulating wheel marker in the far left position air will flow from the upper and lower vents.
▲	With the regulating wheel marker in the centre position air will flow from the upper vent only.
○	With the regulating wheel marker in the far right position the air supply is shut off.



AIR FLOW REGULATOR

1C—'Know Your Car'—INSTRUMENTATION

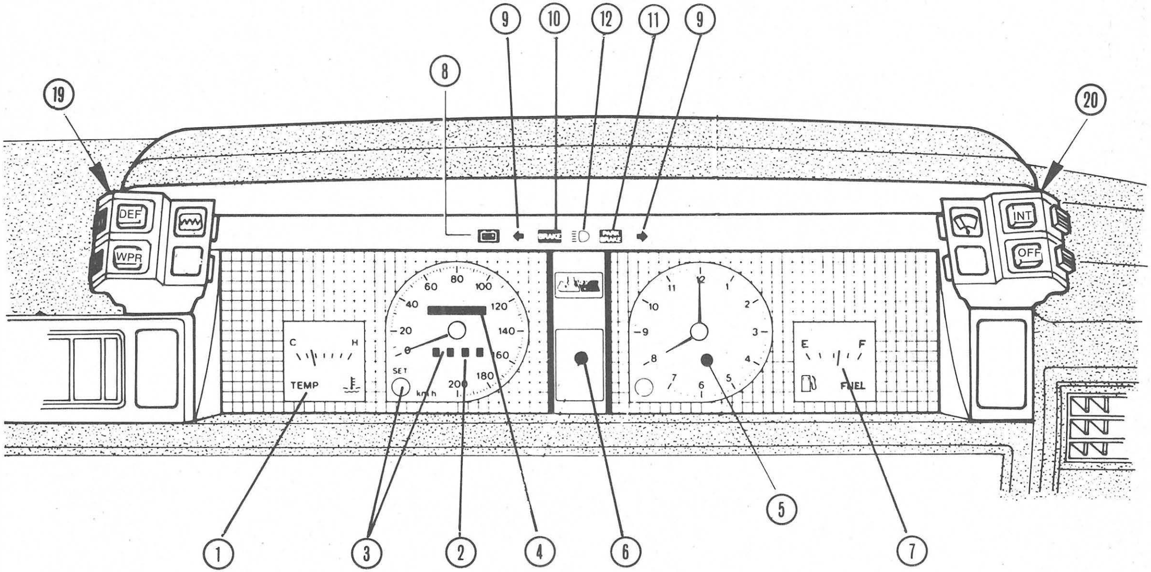
The following 2 pages contain layouts of the instruments found on the SL, Berlina and Calais models. Your vehicle may have additional options fitted, which will therefore be shown on the model layout that has the higher level of luxury.

Refer to pages 29 to 37 for the explanation of the instruments shown in the layouts.

The brightness should be adjusted when it is dark outside the car and when the park or headlights are turned on—then, the adjustment becomes apparent. This is done by rotating the control wheel located to the right of the steering column (if fitted with electrically operated mirrors it is to the left of their square, control rim). The brightness decreases as the wheel is turned downwards and increases when turned the other way. Note, that if turned fully up, passed the 'stop' the courtesy light will come on.

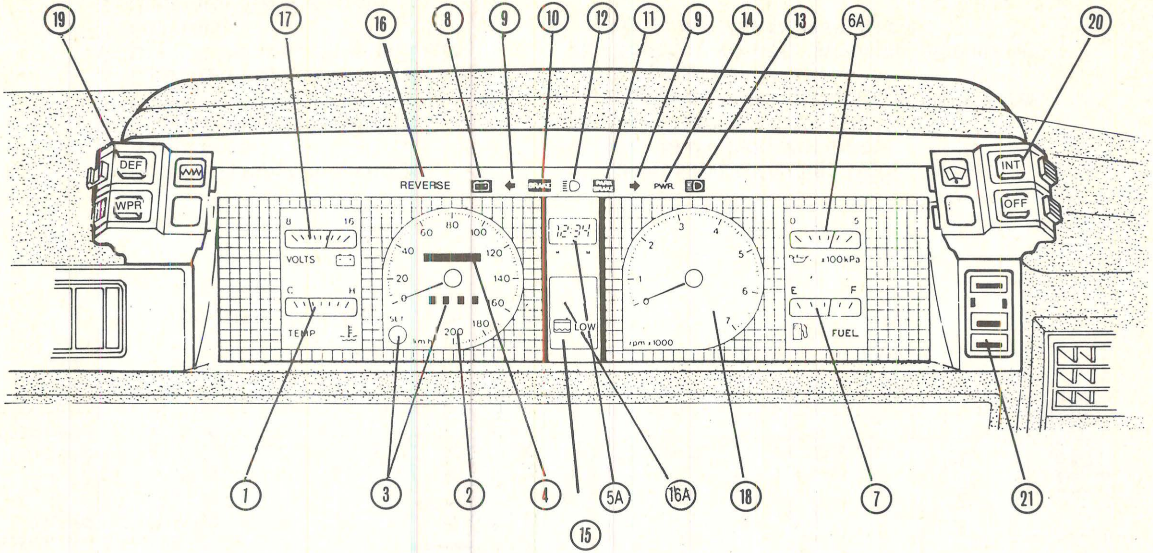
1C—'Know Your Car'—**SL**

INSTRUMENT PANEL


19
8
9
10
12
11
9
20
DEF
WPR
INT
OFF
BRAKE
TEMP
C
H
20
40
60
80
100
120
140
160
180
200
0
SET
km/h
1
2
3
4
5
6
7
8
9
10
11
12
E
F
FUEL
1
3
2
4
6
5
7

1. Coolant Temperature Gauge
2. Speedometer
3. Tripmeter and Reset Button
4. Odometer
5. Clock and Adjustment Control
6. Low Oil Pressure Warning Light
7. Fuel Gauge
8. Generator Warning Light
9. Turn Signal Indicator Light
10. Brake Failure Warning Light
11. Park Brake Indicator Light
12. High Beam Indicator Light
19. 'Touch Switches', including Tailgate Wiper, Tailgate Washer
20. 'Touch Switches, including Windscreen Wiper and Windscreen Washer

1C—'Know Your Car'—BERLINA & CALAIS INSTRUMENT PANEL

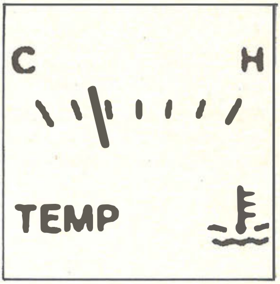

19
17
16
8
9
10
12
11
9
14
13
6A
20
DEF
WPR
REVERSE
PWR
INT
OFF
VOLTS
TEMP
C
H
LOW
rpm x1000
x100kPa
E
F
FUEL
SET
km/h
1
3
2
4
5A
16A
18
7
21
15

1. Coolant Temperature Gauge
2. Speedometer
3. Tripmeter and Reset Button
4. Odometer
5A. Clock and Reset Buttons
6A. Oil Pressure Gauge
7 Fuel Gauge
8. Generator Warning Light
9. Turn Signal Indicator Light
10. Brake Failure Warning Light
11. Park Brake Indicator Light
12. High Beam Indicator Light
13. Headlights 'ON' warning light
14. Power Mode Indicator Light
15. Low Coolant Warning Light (Calais)
16. Reverse Indicator Light (Calais)
16A. Low Fuel Warning Light (where fitted)
17. Voltmeter
18. Tachometer
19. 'Touch Switches' including Tailgate Wiper, Tailgate Washer, Rear Window Demister and Electric Antenna Height Control
20. 'Touch Switches', including Windshield Wiper and Windshield Washer
21. Cruise Control (Calais)

1C—'Know Your Car'—INSTRUMENTATION

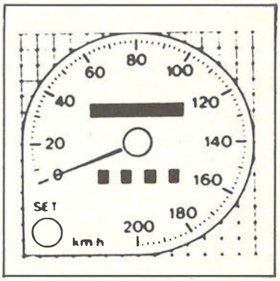
COOLANT TEMPERATURE GAUGE

1. This gauge is calibrated to indicate the relative operating temperature of the engine cooling system. If the needle reaches the RED section (indicating high temperature) the engine should be stopped and the reason for the high temperature determined. Refer to page 54 for instructions on what to do if your engine overheats.



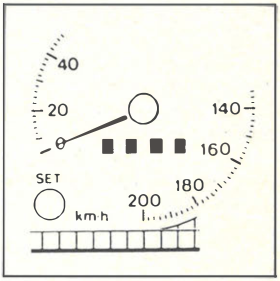
SPEEDOMETER

2. The speedometer is calibrated from 0 to 200 kilometres per hour.


0
20
40
60
80
100
120
140
160
180
200
SET
km h

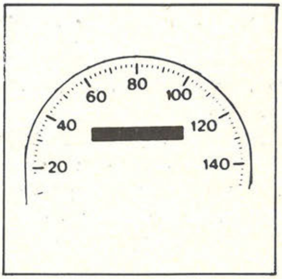
TRIPMETER AND RESET BUTTON

3. A tripmeter, which is also set into the speedometer face is used to record the distance travelled on a particular trip. The tripmeter is set to zero by the push button.


40
20
0
140
160
180
200
SET
km·h

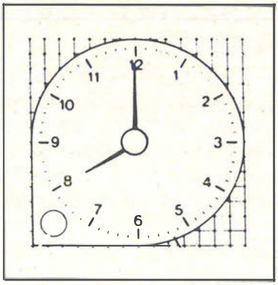
ODOMETER

4. The odometer is incorporated into the speedometer face and records accumulated distance travelled in kilometres since the car was built.

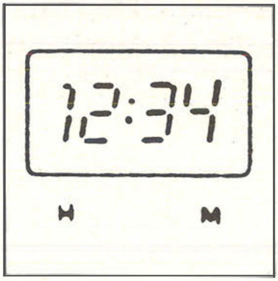

20
40
60
80
100
120
140

CLOCK

5. SL models: The clock is electrically energized and operates continuously while the battery is connected. The time setting is adjusted by turning the knob in the lower left corner of the clock face to engage and rotate the dial hands.

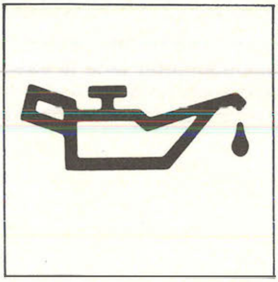


5A. Berlina and Calais models: To reset the displayed hours and minutes, the ignition must be turned to the 'on' position. Press and hold the required adjustment button until the correct number is reached.

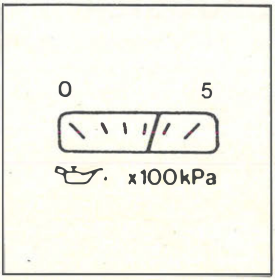


OIL PRESSURE

6. SL models: A red symbol will glow when the ignition switch is turned to the "ON" position. After the engine has been started, the light will turn off and remain off. If the light should glow when the engine is running, stop the engine and do not operate it until the cause of **low** oil pressure is corrected.



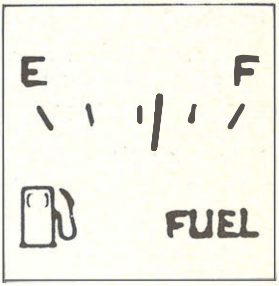
6A. Berlina and Calais models: The oil pressure gauge indicates the relative operating pressure within the engine lubricating system. Should the gauge fail to indicate a reading after starting the engine or if the needle moves towards the far edges (indicating low or high pressure) when the engine is running at above idle speed, you should stop the engine as soon as possible. The reason for the loss of oil pressure or the buildup of excessive pressure should be found and corrective action taken.



1C—'Know Your Car'—INSTRUMENTATION

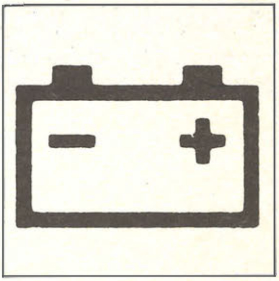
FUEL GAUGE

7. This gauge is electrically operated to indicate the amount of fuel contained in the fuel tank. The gauge is activated when the ignition is turned to the "ON" position. The maximum capacity for sedans is 63 litres, and the maximum capacity for station wagons is 68 litres. Refer to instructions on the inside of the rear cover of this book when refueling.



GENERATOR WARNING

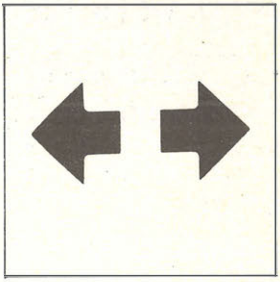
8. This red symbol will glow when the ignition switch is turned to the "ON" position. After the engine has been started, the light will turn off and remain off. If the light should glow while the engine is running it indicates that the generator is not charging. You should stop the engine and check the generator drive belt for looseness or breakage. If the belt is okay, there is a problem somewhere in the charging system. The problem should be corrected as soon as possible.



TURN SIGNAL INDICATORS

9. The appropriate green signal will continously flash when the Lever, attached to the right side of the steering column is moved (refer page 18 for instructions).

Note: Both arrow signals will flash when the Hazard Warning Flasher button is depressed. This is located on the left side of the steering column (refer page 50 for instructions).



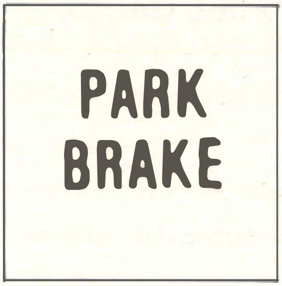
BRAKE FAILURE WARNING

10. This light glows red when ignition switch is turned to the start position and the engine is cranking. This indicates the electrical circuit is functioning. It will cease to glow when the key is released and returns to the "ON" position. If the red sign glows at any other time, it indicates that there may be something wrong with the braking system.

Immediately the indicator light glows under these conditions, stop the vehicle as carefully as possible. Do not proceed until satisfied that cautious progress is possible or that the cause of the problem has been located and rectified. (Reference should be made to brake operations described in Section 2, "Starting and Driving".)

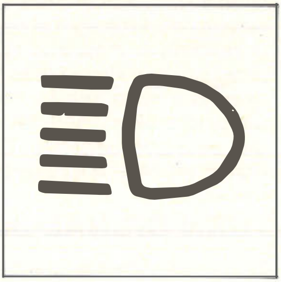
PARKING BRAKE WARNING

11. When the parking brake is applied with the ignition ON, the red sign will glow until the parking brake is fully released.



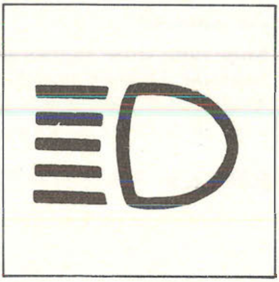
HIGH-BEAM INDICATOR

12. When the headlights are on high-beam a blue signal will glow. (Refer page 19)



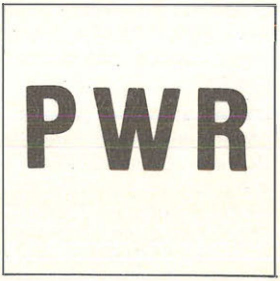
'LIGHTS ON' INDICATOR

13. Calais and Berlina models: This symbol, will glow orange to warn you that the headlights are still switched on with the ignition off. (Refer page 19)



POWER MODE—Automatic Transmission only

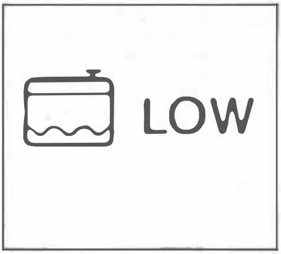
14. This orange symbol is displayed when the transmission is in the 'power mode'—whether selected manually (by the power switch) or automatically (by accelerator operation)—refer page 42. Flickering of the light is an indication of trouble and you should see your GM-H dealer.



LOW COOLANT WARNING LIGHT

15. (Calais models): If this light comes on when the engine is running, the coolant level in the radiator should be immediately checked. Refer page 54 (engine overheating) before attempting to check the radiator if the engine is hot.

The same steps (as appears on page 55) to resolve an overheating situation should be followed if the LOW COOLANT warning light appears.



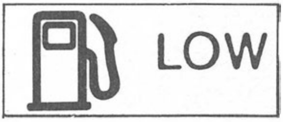
REVERSE INDICATOR LIGHT

16. (Calais models): When the ignition switch is turned to the ON position, and the transmission is shifted to "R" (reverse gear) this indicator light will glow.

REVERSE

LOW FUEL WARNING LIGHT

16A. (where fitted): This symbol is displayed when the amount of fuel in the fuel tank drops below approximately 10 litres.

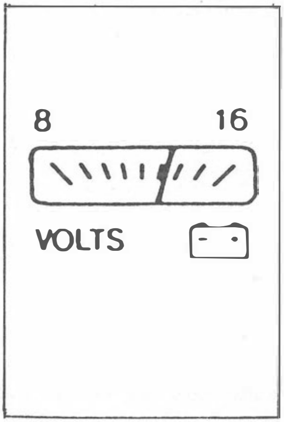


VOLTMETER

17. Berlina and Calais models: The voltmeter indicates the condition of the electrical charge system. Normally the needle will remain in the white band operating area of the gauge between 12 to 15 Volts approximately.

Needle movement to the left red zone indicates a low voltage condition. Needle movement to the right red zone indicates a high voltage condition.

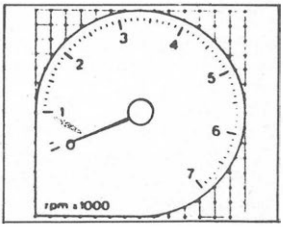
In either of these cases, the electrical charging system will require checking; items such as the battery, voltage regulator, drive belt or wiring and connections could be affected. A generator charge indicator light is incorporated in the warning light panel and this light will glow to indicate a low voltage condition.



TACHOMETER

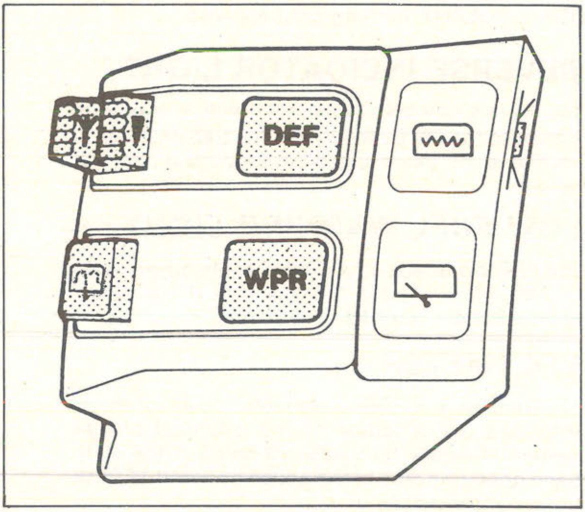
18. Berlina and Calais models: The tachometer records engine speed in revolutions per minute (r.p.m.) and shows 0 to 7,000 r.p.m.

The ORANGE section is a caution zone which may be entered for short periods. Continued or sustained operation in the RED zone could cause serious engine damage.



—REAR DEMISTER
—TAILGATE WIPER & WASHER
—ELECTRIC ANTENNA (if fitted)

LOCATED ON
THE TOP
LEFT SIDE
OF THE
INSTRUMENT
PANEL



To demist the rear window, press the button marked 'DEF'. This operates when the ignition is in the 'ON' position, and when activated the red light next to the button will glow. To avoid overloading the electrical system the demister should only stay on until the rear window is clear. (After 15 min the demister will automatically switch off).

When cleaning the inside to the rear window take care not to damage the heating element.

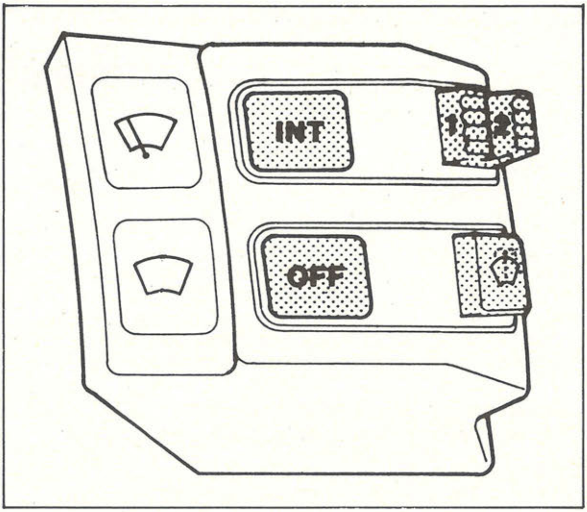
To turn on the rear window wiper on a station wagon, press the 'WPR' button.

Never operate the wiper on dry glass, as this will damage the rubber, so to obtain a spray of fluid, press the lower, left button and hold in as long as required. This will automatically turn on the tailgate wiper.

To turn off the tailgate wiper, re-press the lower, centre button.

The height of the electric antenna is controlled by the top left switches. These are marked by arrows which indicate the direction the antenna will move when each switch is pressed ie, the closest switch will lower the height of the antenna and the farther switch will raise the height.

1C—'Know Your Car'—WINDSCREEN WIPERS & WASHERS



LOCATED ON
THE TOP
RIGHT SIDE
OF THE
INSTRUMENT
PANEL

The wiper and washer mechanism operates when the ignition switch is in either the "ON" or "ACC" positions.

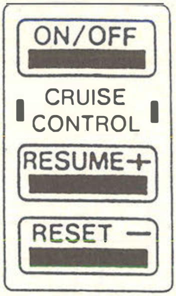
To turn the front windscreen wipers onto normal speed, push in the switch marked '1'. For a quicker wipe speed push in the switch marked '2'. When driving in conditions such as drizzle or mist, use the intermittent wiper speed by pressing the 'INT' button.

To switch the wipers off (from any operating speed), press the 'OFF' button.

Note, that you can 'inter-change' between speeds—that is you may select 'INT' when operating a wipe speed '2' without first switching to '1' etc.

Never operate the wipers on a dry windscreen, as this will damage the rubber. To obtain a spray of fluid over the glass, press the lower, right button and hold down as long as required. This will automatically turn the wipers onto normal speed.

1C—'Know Your Car'—CRUISE CONTROL (Where Fitted)



21. The Cruise Control enables you to select and maintain, or adjust a constant travelling speed, provided it is within engine limitations and over 40 kph approx.

Press the ON/OFF switch and an orange light will glow, indicating the system is activated and ready for use. A green light will glow when the Cruise Control is in use and is maintaining your speed.

TO SET INITIAL SPEED you may either:

1) Use the accelerator pedal to gain your desired speed, press the (−) reset button once and take your foot off the accelerator pedal.

or

2) use the accelerator pedal to reach approx 40 kph, then depress and hold down the (+) resume switch while taking your foot from the accelerator pedal. Your speed will gradually increase until you release the (+) resume switch.

TO ADJUST YOUR INITIAL SPEED you may either:

1) depress and hold the (−) reset switch until the vehicle coasts down to the desired speed, then release

or

depress and hold the (+) resume switch until the vehicle accelerates up to the desired speed.

2) Minor changes in vehicle speed (1.6 kph) can be achieved by momentarily tapping the appropriate switch:—(+) resume to increase, (−) reset to decrease speed.
NOTE:—you cannot 'tap' under 40 kmp approx.
—you may only 'tap up' your speed 10 times in succession.

TO RELEASE THE CRUISE CONTROL you may either:

1) press the ON/OFF switch, which will deactivate the whole system and wipe clear any speed 'memory'.
2) Press the (+) resume and (−) reset switches at the same time.
3) touch the brake or clutch pedal, which will release the Cruise Control but retain the speed in it's memory so that you only have to 'tap' the (+) resume switch to regain that speed—provided you are travelling over 40 kph at the time. Holding down the (−) reset switch for longer than one second will clear the memory and set the speed at what you are travelling.

DO NOT USE THE CRUISE CONTROL WHEN ROAD OR DRIVING CONDITIONS COULD REQUIRE VARYING SPEEDS. A CONSTANT SPEED MAY NOT BE PRACTICAL IN HEAVY OR VARYING TRAFFIC, OR ON WINDING, SLIPPERY OR ROUGH ROADS.
REMEMBER THAT TAKING YOUR FOOT OFF THE ACCELERATOR WHEN THE CRUISE CONTROL IS ENGAGED DOES NOT LET THE CAR SLOW DOWN. TO DISENGAGE THE SYSTEM YOU MUST TOUCH THE BRAKE OR CLUTCH SYSTEM, TURN THE POWER SWITCH OFF, OR DEPRESS THE (+) AND (−) SWITCHES TOGETHER.
WHEN GOING UP OR DOWN HILLS, (PARTICULARLY WHEN TOWING) IT IS POSSIBLE FOR THE CAR TO GAIN OR LOSE SPEED EVEN THOUGH THE CRUISE CONTROL IS OPERATING. IN THAT CASE, YOU MAY NEED TO DISENGAGE THE SYSTEM AND RESUME MANUAL SPEED CONTROL.

SECTION 2 STARTING AND DRIVING

page 38 —Safety Check List

page 39 —Ignition Lock & Parking

page 40 —Starting Procedure

page 41 —Manual Transmission

page 42 —Automatic Transmission

page 44 —"Running-in"

page 44 —Fuel Consumption Tips

page 45 —Driving Precautions

SAFETY CHECK LIST

EXHAUST GAS WARNING

(Carbon Monoxide Poisoning)

Exhaust gases contain carbon monoxide, a dangerous gas, which can cause unconsciousness and even death to both humans and animals.

You could inhale the gases if the exhaust system on your vehicle is faulty.

To protect against exhaust gas entry into the interior of the vehicle we recommend that the exhaust system and body be thoroughly inspected:

—each time the vehicle is serviced;
—whenever a change is noticed in the sound of the exhaust system or
—whenever the exhaust system, underbody or rear of the vehicle is damaged.

Take the vehicle to your GM-H dealer if you think your vehicle needs inspecting for any of the above reasons.

DO NOT SIT IN A PARKED VEHICLE FOR ANY EXTENDED PERIOD OF TIME WITH THE ENGINE RUNNING AND DON'T LEAVE THE CHILDREN OR YOUR PETS IN THE VEHICLE EITHER.

DO NOT RUN THE ENGINE IN AN ENCLOSED AREA SUCH AS THE GARAGE, ANY LONGER THAN IS NEEDED TO MOVE THE VEHICLE.

Driving with the luggage compartment lid or wagon tailgate open is not recommended. If you must travel with the luggage compartment lid or wagon tailgate open, close all windows, fully open the ventilation system, turn ventilation fan control to maximum setting and do not exceed 50 km/h unless necessary.

SAFETY CHECKLIST

Following these simple steps before driving your new vehicle will help make your motoring safer:

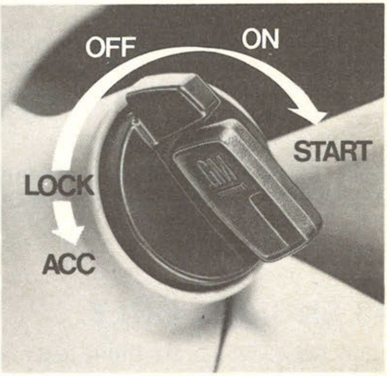
Before Entering The Car

1. Check that windows, mirrors and lights are clean.
2. Check tyre inflation. (Refer page 81)
3. If you intend to reverse, check that the area behind your car is clear.

Before Driving Off

1. Be sure that all doors are secured. (Refer page 8)
2. Position your seat for comfortable driving. (Refer page 10)
3. Adjust all rear vision mirrors. (Refer page 13)
4. FASTEN SEAT BELTS. (Refer page 14)
5. Check that the warning indicators light up when you turn the key to start the engine. (Refer page 26)

IGNITION LOCK



The anti-theft lock is positioned on the right side of the steering column. It has five positions.

ACC (1st Back from Lock)—Permits operation of accessories when the engine is not running. To engage, push the key in and turn toward you (counterclockwise).

LOCK (Normal Parking Position)—Locks the ignition when the key is removed and provides an added theft protection by preventing operation of the steering wheel.

OFF (1st Forward from Lock)—Permits turning the engine off without locking the steering wheel.

ON (2nd Forward from Lock)—Normal operating position. The ignition circuit and the electrically operated instruments are energised.

START (3rd Forward from Lock)—This cranks the engine. Immediately the engine starts take your hand off the key and allow it to return to **ON** position.

CAUTION: Do not turn the engine off while the vehicle is in motion as this renders ineffective any power assisted equipment operated off the engine. Never remove the key while the vehicle is in motion as this will lock the steering of the vehicle.

NOTE: If the steering lock is difficult to disengage when the vehicle has been parked with the tyres hard up against the kerb or with the steering wheel off-centre it may be necessary to rotate the steering wheel to free up the ignition steering lock.

PARKING

When leaving your vehicle:

1. Apply the parking brake.
2. Place manual transmission in Reverse Gear or automatic transmission in Park
3. Turn ignition key to Lock and remove key.
4. Shut all windows and lock all doors

CAUTION: Be careful where you park or drive. As with any vehicle, do not park or operate this vehicle in areas where combustible materials such as dry grass or leaves can come in contact with a hot exhaust system.

3.0 LITRE ENGINES ONLY

1. Apply the parking brake firmly and release only after you have started the engine and are ready to drive off.
2. If fitted with automatic transmission, move the shift lever to 'P' (Park) or 'N' (Neutral) position. The engine will not start if it is in any other position.
3. For cold or hot starting the procedure is the same. Simply turn the key to START position and release when the engine starts. You do **not** have to depress the accelerator pedal prior to or during cranking.

NOTE: You should not subject the engine in your vehicle to high load conditions such as full throttle, acceleration or high speeds until it has warmed up to operating temperature.

V8 ENGINES ONLY.

Apply the parking brake firmly and release only after you have started up and are ready to drive off.
Move the shift lever to 'P' (Park) or 'N' (Neutral) position. The engine will not start if it is in any other position. Start the engine as outlined below.

COLD ENGINE

Before starting a cold engine, press the accelerator pedal slowly to the floor once and then completely release it. This action sets the choke system for starting. Turn the ignition key to the START position until the engine is started. If the engine fails to start within a few seconds, turn the key to the OFF position then depress and release the accelerator pedal before turning the ignition key to the START position again. Release the key when the engine is started. If the vehicle has been standing for several days, it may be necessary to repeat this procedure a few times until the engine starts. After the engine has started, allow it to run at fast idle for at least 10 seconds before gently kicking down. While the engine is running, the automatic choke gradually moves to the off position as the engine reaches normal operation temperature. In temperatures below 0°C, let the engine run at fast idle in NEUTRAL for about one minutes. Without touching the accelerator pedal, put the automatic transmission into DRIVE and wait for a few seconds for the engine to steady itself before releasing the brake to drive away. You should not subject the engine in your vehicle to high load conditions such as full throttle, acceleration or high speeds until it has warmed up to operating temperature.

WARM ENGINE

When your engine is warm, the choke system operates only briefly—if at all. To start—press the accelerator halfway to the floor and hold it in this position, then turn the key to START. Idle the engine in Neutral for a short period before driving off.

FLOODED ENGINE

Pumping the accelerator pedal and/or cranking the engine for a lengthy period without it starting could result in there being too much fuel in the engine.

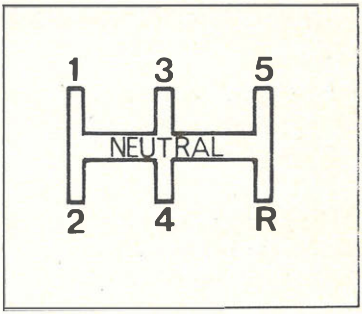
If this occurs, press the accelerator down to the floor and hold it there while holding the key in the start position. When the engine starts, allow the accelerator pedal to come up slowly.

5 SPEED MANUAL TRANSMISSION

This system has 5 fully synchronised forward gears and a non synchronised reverse gear. The shift pattern illustrated, is also found on the top of the gear shift lever.

When SELECTING FIFTH GEAR, you must shift the gear lever sideways against spring pressure in order to pass into the gear.

To SELECT REVERSE GEAR, you must first shift the gear lever sideways against spring pressure in order to pass into the gear.



RECOMMENDED SHIFT SPEEDS
Gear changes should be selected at the speeds indicated to ensure minimum exhaust emissions and fuel consumption.

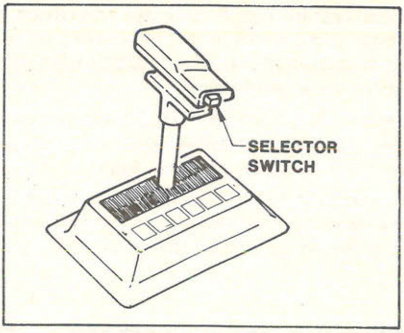
Gear Change	3.0 litre Non Turbo Engines	3.0 litre Turbo Engines	2.0 litre Export
1 — 2	20 km/h	25 km/h	25 km/h
2 — 3	35 km/h	40 km/h	40 km/h
3 — 4	55 km/h	60 km/h	60 km/h
4 — 5	70 km/h	80 km/h	70 km/h

Operating Notes

- When shifting from one gear to another, be sure to depress the clutch pedal fully to avoid clashing and possibly chipping the transmission gears.
- Shift the gears with a moderate effort to allow time for the transmission synchronizers to work properly.
- Never attempt to engage reverse gear until the vehicle has completely stopped. A slight pause between depressing the clutch pedal and moving into Reverse gear is desirable to allow all the rotating components to stop and avoid gear crashing.
- Whenever Reverse is selected with the ignition on, the back-up lights will operate.
- Do not drive with your foot resting on the clutch pedal as damage to the clutch may result.
- When stopped on an incline do not hold the vehicle by slipping the clutch. Use the foot brake or parking brake.
- When climbing steep grades, change down to a lower gear before the engine starts to labour. To maintain safe speeds on a steep downgrade and to reduce brake wear and overheating, shift into a lower gear before starting the descent.
- Do not overspeed the engine when shifting down to the next lowest gear (maximum recommended engine speed—6000 rpm).

2—'Starting and Driving'—AUTOMATIC TRANSMISSION

—Models with 3.0 litre engines only



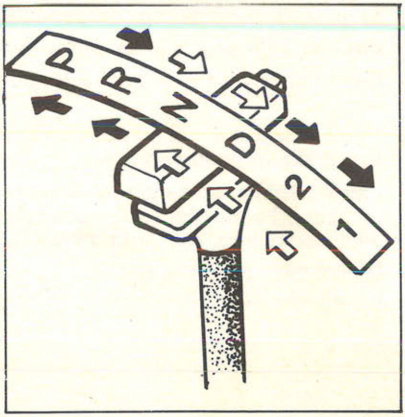
The orange button, located on the right side of the T-bar handle controls the two types of 'shift' patterns available with your automatic transmission.

When the button is pressed in, the NORMAL PATTERN is selected. This is the most effective mode for normal or freeway driving and allows for maximum fuel efficiency.

To shift to the POWER PATTERN, press and release the orange button—the PWR letters on the button will now be visible and the signal on the instrument panel will glow. The power pattern is most effective when overtaking and gives acceleration and deceleration, especially in hilly areas. This power pattern is recommended for towing.

If, in the normal pattern mode the accelerator pedal is quickly depressed, the transmission may automatically shift into the power pattern. The indicator signal on the instrument panel will glow, even though the T-bar switch is 'off' when this occurs.

—all models.



RAISE THE RELEASE BAR below the T-bar handle when shifting to R or P and when shifting from D to 2 to 1; as indicated by the arrow. ➡

You may shift without using the release bar into any positions indicated by the arrow. ⇨

NOTE: The engine will not start unless the selector is in P (Park) or N (Neutral).

SELECTOR POSITIONS

P— (PARK)		This stops the rear wheels from turning and so should be selected (together with the park brake) when leaving the vehicle. Never select P until your vehicle is fully stopped.
R— (REVERSE)		Never select R until your vehicle is fully stopped. Reversing lights will operate when R is selected and the ignition is on. After reversing, make sure the vehicle has fully stopped before proceeding forward again.
N— (NEUTRAL)		This is the out-of-gear position. You may then restart a stalled engine while the vehicle is still moving.
D— (DRIVE)		This is the normal forward driving position and allows the transmission to choose the appropriate gear for the load and driving conditions.
2— (SECOND)	6 cylinder engines only	The transmission will not downshift to 1st gear when 2 is selected with the T-bar. This is useful when moving off in slippery conditions (mud or ice). 2 (second gear), together with gentle acceleration will reduce rear wheel spin. 2 also provides 'engine braking' to slow down when descending hills. Do not exceed 120 kph in this gear. In most cases, the use of the power switch (see previous page) will alleviate the need to manually select this gear to obtain more power.
	V8 engines only	This position prevents the transmission changing to 3rd gear for going up hills, or for "engine braking" when going downhill. You may shift from "D" to "2" (and vice versa) under most driving conditions. However you should not use "2" over 110 km/h for extended periods. Unlike the transmission fitted with a 6 cylinder engine, this transmission will downshift to "1" when travelling at slow speed.
1— (FIRST)	6 cylinder engines only	This provides maximum 'engine braking' when driving down very steep hills or through deep snow or mud. Never select position 1 if speed is over 120 kph. The transmission will not change down into 1st gear (even if selected with the T-bar) above 50 kph. Do not keep the T-bar in position 1 over 60 kph.
	V8 engines only	This provides maximum 'engine braking' when driving down very steep hills or through deep snow or mud. Never select or keep the T-bar in position 1 if speed is over 70 km/h.

SOME MORE AUTOMATIC DON'TS

- Don't rev the engine with the brakes on in either 1, 2, D or R. This will overheat the transmission.
- Don't rev the engine to hold the car on a slope. Use the brakes.
- Don't ever coast the vehicle in N—this lessens your control and the engine braking power.

Refer page 127 when towing a vehicle with an automatic transmission.

2—'Starting and Driving'—

RUNNING-IN AND FUEL ECONOMY TIPS

NEW CAR 'RUNNING-IN' PERIOD

These days, there's no need to follow the formal running-in schedule. However, by observing a few simple precautions during the first few hundred kilometres of driving you will greatly assist your vehicle's future performance and economy.

For the first 500 kilometres, don't exceed 80 km/h. Up to 1,500 kilometres avoid driving at any one speed—either slow or fast—for any length of time. Therefore avoid using the cruise control while 'running in'.

Include some higher speeds during this period. Always drive at moderate speed until the engine has completely warmed up.

For the first 500 kilometres heavy braking should be avoided, except in an emergency, since brake misuse during this period could impair future braking efficiency.

HOW TO REDUCE FUEL CONSUMPTION

The following information is to help you obtain the least fuel consumption from your vehicle.

Vehicle Maintenance

Maintain your car in peak mechanical condition by having it serviced regularly in accordance with the GMH Maintenance Schedules. This will ensure items such as engine timing, spark plugs, air clearner, engine idle speed etc. are maintained for least fuel consumption.

Tyre Pressures

Keep the tyres at the recommended pressures. Under-inflated tyres create extra rolling resistance which contributes to increased fuel consumption. Refer page 81.

Wheel Alignment

Maintain correct front wheel alignment. Incorrect alignment makes the front wheels drag and increases fuel consumption.

Warm Ups and Excessive Idling

- Avoid long engine warm ups. They are unnecessary and waste fuel. An engine takes approximately five minutes to reach its efficient operating temperature and it does this most effectively by driving on the road.
- You should also avoid excessive engine idling. If you have to wait for more than a couple of minutes turn off the engine to conserve fuel.

Accelerating, Driving and Braking

- Accelerate gently—avoid rapid starts, sudden bursts of speed and full throttle accelerations—they're certain fuel wasters.
- Drive the vehicle at steady speeds where possible (after run-in). It is desirable to achieve top gear operation, as soon as possible, but under no circumstances should you force the engine to labour in top gear.

NOTICE: "Riding the brake" by resting your foot on the brake pedal when you do not intend to brake can cause overheated brakes. This can wear out the brake linings and pads faster, damage the brakes and waste fuel.

2—'Starting and Driving'—DRIVING PRECAUTIONS

TYRE TRACTION

A decrease in driving, cornering and braking traction occurs when water, snow, ice, gravel or other material is on the road surface. Driving practices and vehicle speed should be adjusted to the road conditions.

LOOSE ARTICLES

Do not leave loose articles or luggage in the passenger compartment. Whenever possible, stow articles in the luggage compartment. For wagons, loads stowed in the luggage area should be firmly secured.

POWER STEERING (Where Fitted)

This system has been designed to reduce steering effort. It uses hydraulic pressure to lighten steering loads and is designed so that "road feel" is retained. Care should be taken not to hold a turning force on the steering wheel when stationary (i.e. when waiting before turning a corner, etc.) as this creates unnecessary, high operating pressures within the system.

If the power steering is rendered ineffective because the engine has stalled, the drive belt broken or if the pump reservoir is empty of fluid, the car can still be steered. However, due to the much greater effort required to steer, it is recommended that you have the problem fixed promptly.

BRAKES

Driving through water may affect performance. Applying the brakes lightly will indicate whether they have been affected. To dry them quickly, lightly apply the brakes while maintaining a slow forward speed with an assured clear distance ahead until brake performance returns to normal.

Brake pedal travel should not be obstructed by ill-fitting floor mats or any other material under the pedal which causes interference with normal pedal movement.

Also your seat should be positioned so that you can reach the brake pedal satisfactorily under all braking conditions.

Power Assisted Brakes

Power assisted brakes which are fitted to your vehicle utilise vacuum from the engine when it is running. Never let the vehicle run down steep grades without the engine running. **Never** coast with the engine switched off.

'Turbo' Models

The turbocharger turbine turns at extremely high speeds and its temperature can reach high levels. It is essential to maintain a clean supply of oil flowing through the turbocharger system as a sudden interruption of oil supply may cause a malfunction in the turbocharger. Therefore, if the engine has been operating at high load or high rpm for an extended period of time, let it idle for a few minutes prior to shutdown. Also, do not accelerate your engine to high rpm immediately after a cold start.

SECTION 3

ACCIDENTS AND EMERGENCIES

PART A—Accidents
  page 48 —What to do at the scene of the accident
  page 49 —Medical Assistance

PART B —Emergency
  page 50 —Hazard Warning Flashers
  page 50 —Towing a Vehicle
  page 51 —Headlight Eyelid—Manual Operation (Calais)
  page 52 —Starting when the Battery is Flat
  page 54 —Engine Overheating
  page 56 —Spare Wheel Storage and Removal
  page 57 —Changing a Tyre

3A—'Accidents & Emergencies'—ACCIDENTS

All motorists are advised to learn what to do at the scene of an accident, particularly where persons are injured. Injured people can choke to death if their air passages are not cleared. They can bleed to death unless the bleeding is stopped. They may require mouth-to-mouth resuscitation, may have to be moved, even though badly injured. It is important that you understand how to avoid further damaging an injured neck or back or other broken limbs.

The following notes may help.

- **Part 1. Accident—being involved.**
- **Part 2. Accident—being a witness.**
- **Part 3. Medical assistance.**

Part 1. Accident—being involved

If you are involved in an accident you are advised to do as follows:

Stop immediately and remember to turn off the engine and apply park brake.

Remember that time is vital. Remain calm and alert. Think quickly and clearly.

Give all possible assistance to all injured persons. (See Part 3 Medical Assistance).

Send for police and ambulance if anyone has been injured. Send information as accurately as possible. Give the exact location, the number of injured people and a brief report on the overall situation.

Perhaps take charge of the situation.

Warn all other traffic approaching the scene. Turn off ignition switches. Stop any smoking near spilt petrol. In darkness, try and light up the area to warn others.

Clear the road of accident debris.

Exchange your name, address, vehicle registration number and the vehicle owner's name and address with the other parties involved in the accident.

If damage to property only has occurred, report the facts to the owner of the damaged property or to his or her representative; to any police present at the scene or to the nearest Police Station.

Try and note all important facts because such details may be important if needed later.

Part 2. Accident—being a witness

If you witness a road accident or it becomes your task to stop and help at the scene of an accident, do this:

Keep in mind that an observant witness can prove most helpful. Some day you yourself might be very glad of help from a witness.

DO NOT stop at the scene of an accident *just to be a spectator.*

Where other people are already in attendance and giving assistance, **you should stop only if you can contribute assistance.**

3A—'Accidents & Emergencies'—ACCIDENTS

Give what assistance you can to any injured persons. (See Part 3 Medical Assistance.)

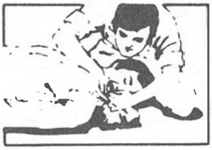
Follow most of the steps suggested in Part 1. Perhaps you may have to take charge of the accident situation.

Part 3. Medical assistance

Keep calm and think clearly.

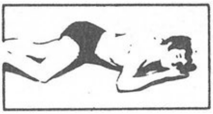
Your experience may not be much but do your best. Don't just stand by and let an injured person die.

- Look after the unconscious person first. Check for breathing. If no breathing, then check if air passages are clear, i.e. nose and mouth. Use your fingers to clear air passages if necessary. If the airway is clear then mouth-to-mouth resuscitation may be needed at once.



Unconscious people can choke.
Carefully turn to one side.
Tilt the head back slightly.
Wipe out the mouth with your finger to remove blood, vomit, broken teeth or dentures.

- You must be most careful in moving an injured person. Often it is best not to move at all but, in conditions of danger, that is not always possible. Serious and permanent damage can be done to an injured neck or back if not supported during movement. NEVER BEND A NECK OR BACK. KEEP THEM STRAIGHT. All injured limbs require support when an injured person has to be moved.
- Provided it is not dangerous to do so because of other injuries, an unconscious person will do best in the "como position" illustrated here.



Lay the person on one side and—if will not aggravate any injuries—then: Bend the uppermost knee until the thigh is at right angle to body.
Bend the uppermost arm and elbow so that the hand lies near the face.
Gently pull the underneath arm so that it rests straight on the ground free of any body weight.

- Try to stop bleeding by applying direct pressure, using your hands, or by pressing torn flesh together. Use any clean cloth available. Fold cloths to make pads. If necessary, press one pad on top of another. Keep pressure around edges of a wound BUT NEVER USE A TORNIQUET.

Shock may be treated by reassurance, relieving pain, controlling any bleeding and keeping the injured person warm *but not hot*. Best not to give any fuids and NEVER ALCOHOL.

- If the injured person is in danger and has to be moved, try and have three or four people help and concentrate on not bending the neck, spine and injured limbs. **Keeping the neck and spine straight is most important.**

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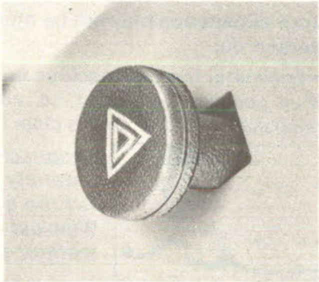
3B—'Accidents & Emergencies'—

HAZARD WARNING FLASHERS & TOWING A DISABLED VEHICLE

FOUR-WAY HAZARD WARNING FLASHER



Use the hazard warning flasher to warn other drivers any time your car becomes a traffic hazard, day or night. Avoid stopping on the roadway if possible.

- Turn on the hazard warning flasher by pushing in the button located on the left side of the steering column. This makes all four turn signal lights flash continuously. The signal indicator lights on the instrument panel will also flash simultaneously.
- The flasher will work with the ignition either off or on.
- To turn off the flasher, pull the button out.

TOWING A DISABLED VEHICLE

Proper lifting or towing equipment is necessary when lifting or towing the vehicle to prevent damage to it during any towing operation. State and Local Laws must be followed. In an emergency, your vehicle may be towed on all four wheels in the following manner:

- Fit the towing equipment to one of the towing eyes on the front subframe below the front bumper. Do not attach to the bumpers or brackets.
- Place transmission in neutral position and release the handbrake.
- Switch the ignition key to "ON" position (this will free the steering lock). Then turn the key anticlockwise past "LOCK" to "ACC". This will allow the correct operation of windshield wipers and turn signals.
- For the sake of safety and to prevent damage to the vehicle it is advisable to avoid jerky movements and to drive slowly during towing operations.
- Remember that power assist for brakes and power steering (where fitted) will not be available when the engine is off.
- To prevent the entry of exhaust fumes from the towing vehicle into the passenger compartment of your vehicle, close the windows and stop entry of air by moving heating and ventilation controls of OFF position.
- Automatic vehicles must not be towed for more than 55 km or at over 55 km/h unless the propeller shaft is removed.
- Vehicles with damaged transmissions must not be towed unless the propeller shaft has been removed.
- Only the driver should be in a towed vehicle.

3B—'Accidents & Emergencies'—MANUAL RAISING OF CALAIS 'EYELIDS'

CAUTION: IF THE EYELIDS ARE BEING RAISED MANUALLY YOU MUST FIRST DISCONNECT THE WIRING. FAILURE TO DO SO MAY CAUSE PERSONAL INJURY IF THE EYELIDS SUDDENLY CLOSE DOWN, CAUSING THE OPERATING SHAFT TO RAPIDLY SPIN.

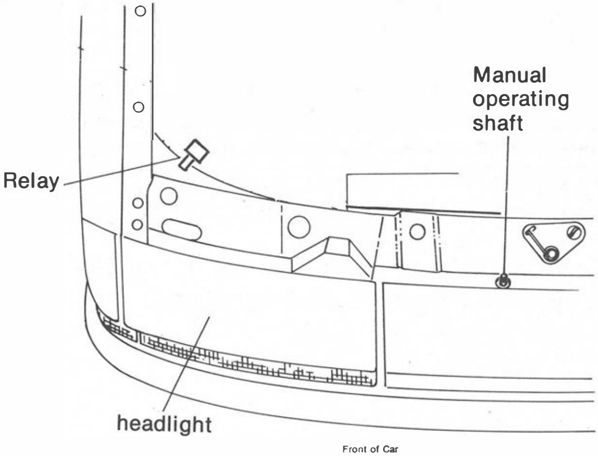
This procedure should only be used when the automatic system has failed, i.e. the eyelid stays down when you have switched the headlights on. If this happens, the headlight intensity will be greatly reduced if you fail to manually raise the eyelids before driving the vehicle.

—Raise the engine hood and secure with the support rod. Refer page 77

—Inside the engine compartment, behind the driver's side headlamp is a small silver box (approx 1 inch square), attached to the body of the car with a screw. This is the eyelid relay. A plastic, connector plug is attached to the bottom of the relay and has wires leading away from it. Disconnect the plastic plug from the relay by pulling the plug down.

—Locate the turning shaft (refer diagram). Rotate the shaft clockwise until the eyelids are fully raised.
NOTE: If you continue rotating the shaft after the eyelids are raised you will then be closing them back down.

Do not reconnect wiring until the vehicle has been taken to an authorised GM-H dealer.



3B—'Accidents & Emergencies'—FLAT BATTERY

CAUTION: DO NOT attempt to 'push start' or 'tow start' your Commodore or Calais. These vehicles are fitted with a catalytic converter and if uncombusted fuel were to reach the catalytic converter and ignite, the converter could overheat or be destroyed by backfire.

If your vehicle will not start due to a discharged battery, it can often be started by using energy from another battery—a procedure called 'jump starting'.

However, if after reading the following procedure you are still unsure about 'jump starting', we strongly recommend for your safety and that of your vehicle that you leave the starting to a competent mechanic.

Jump Starting

CAUTION: Batteries produce explosive gases, contain corrosive acids and supply levels of electrical current high enough to cause burns. Therefore, to lessen the chance of personal injury when working near a battery:

- **Do not expose the battery to open flames or sparks. Battery action generates hydrogen gas which is flammable and explosive.**
- **Do not smoke near a battery.**
- **Wear eye protection such as industrial safety glasses and avoid leaning over the battery whenever possible.**
- **Do not allow battery acid to contact eyes or skin. Flush any contacted area with water immediately. In case of eye contact you should get medical help. Battery acid will also damage paintwork and fabrics if not washed off immediately.**
- **Be sure any batteries that have filler caps are properly filled with fluid.**
- **Remove rings, metal watch bands and other metal jewellery before working around a battery.**
- **Carefully follow each step in the jump starting procedures.**

Also, never use a quick charger to start your engine.

1. The battery of your vehicle has a negative earth and a 12 volt rating. The battery in the other vehicle—that is being used to jump start the flat battery—must be the same voltage and also have a negative earth. So, check the specifications in the other vehicle's owner manual to see it if complies. Serious injury or damage may result if the wrong type of battery is used to energise the flat battery.

2. Position the two vehicles so that they are **not** touching and apply the parking brakes. Automatic transmissions are to be placed in 'PARK' and manual transmissions placed into 'NEUTRAL'. Turn off ignition and all lights and accessories in both vehicles except the hazard flasher or any lights needed for the work area.

3. Attach one end of the first jumper cable to the positive terminal of the **booster battery** (identified by a red colour, + or P on the battery case, post or clamp) and the other end of the same cable to the positive terminal of the **discharged battery.**

4. Attach one end of the second jumper cable to the negative terminal (black colour,—or N) of the **booster battery,** and the other end to a solid, stationary, metallic point on the engine of the vehicle with the discharged battery **(do not connect directly to negative post of discharged battery).**

5. When making all connections take care that the clamps from one cable do not inadvertently touch the clamps on the other cable. Also ensure that jumper cables are not on or near pulleys, fans or other points that will move when the engine is started.

6. Start the engine in the vehicle which has the good battery and run the engine at a moderate speed. Then start the engine in the vehicle that has the discharged battery.

7. When the engine starts, leave it running then remove the jumper cables by reversing the above installation sequence exactly. While removing each clamp, take care that it does not touch any other metal while the other end remains attached.

ENGINE OVERHEATING

CAUTION: If the engine should overheat, as indicated by the Temperature Gauge reading or if you suspect there is a serious overheat condition immediate action is required as outlined in the following section. Continued operation of the engine EVEN FOR A SHORT TIME could result in a fire and the possibility of personal injury and/or severe vehicle damage.

If you can see or hear steam escaping from the engine compartment or suspect there is an overheat condition, stop the vehicle, as soon as it is safe to do so, and turn off the engine.

Do not open the engine hood if you can see or hear steam or coolant escaping from the engine compartment. Wait until no steam or coolant can be seen or heard before opening the hood.

While the engine is cooling, check your fan belt for slipping or breakage and check that the fan turns when the engine is cranked.

Look for leaks at the radiator hoses and connections, heater hoses and connections, radiator and water pump.

Take care when checking all these areas as they will probably still be hot.

If you find major leaks or spot other problems that may have caused the engine to overheat, do not run the engine until these problems have been corrected.

If you do not find a leak or other problem then you should check the level of coolant in the radiator.

CAUTION: Do not remove the radiator cap if the engine and radiator are still hot. Scalding fluid and steam can be blown out under pressure which could cause serious personal injury.

When the engine has cooled sufficiently, remove the radiator cap as follows:

Cover the radiator cap with a thick cloth and turn it slowly anti-clockwise until it reaches a "stop". Do not press down while turning the cap.

Wait until any remaining pressure (indicated by a hissing sound) is relieved, then press down on the cap and continue turning it anti-clockwise until it can be removed. Check the coolant level and add water if necessary with the engine idling. Top up recovery reservoir if required. After taking one or more of the actions above and once the Temperature Gauge no longer signals an overheat condition you can resume driving at a reduced speed. Return to normal driving after ten minutes if the Temperature Gauge does not again show an overheat condition.

If overheating occurs again you should have the vehicle attended to, as soon as possible, by a qualified mechanic.

NOTE: Your vehicle's engine may temporarily operate at high temperature during more demanding operating conditions especially on very hot days. These conditions include:—

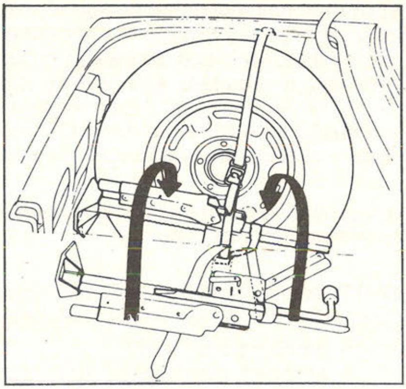
- climbing a long hill
- stopping immediately after high speed driving
- idling for long periods in traffic or
- towing a heavily laden trailer or caravan.

You should avoid operating your vehicle for prolonged periods in any of the above circumstances if the Temperature Gauge indicates high engine coolant temperature.

Refer to page 80 which gives maintenance instructions to help protect your cooling system from overheating.

3B—'Accidents & Emergencies'—SPARE WHEEL

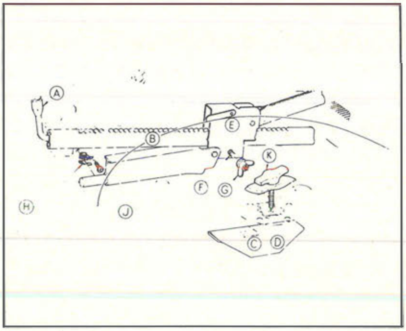
SEDAN



The spare wheel, jack and wheel nut wrench are stored in a vertical position on the left hand side of the boot.

The spare wheel is secured by a strap, the jack base rests on the rear of the spare wheel well. To release the spare wheel push buckle upwards.

STATION WAGON



The spare wheel, jack and wheel nut wrench are stored below the floor panel in the rear luggage area. The spare wheel is held in position by a retainer plate and a hand nut. Access to the spare wheel is gained by lifting the carpet and then the floor panel.

To Remove

1. Roll back carpet and unlock wheel storage hatch cover by shifting the retaining lever to the left.
2. Lift the cover to full extent.
3. Unscrew the wheel retaining bolt.
4. Remove spare wheel.
5. Unscrew wing nut on the jack retaining stud and remove the jack and wheel nut wrench.

To Replace

1. Place wheel nut wrench 'A' into jack column 'B'.
2. Position jack base 'C' under wheel support bracket 'D'.
3. Slide ratchet mechanism 'E' along jack column 'B' so that the hole in the ratchet mechanism will locate with the stud 'F' protruding from the rear of the wheel well.
4. Position jack assembly and secure with wing nut 'G' and clip 'H'.
5. Replace wheel 'J' in wheel well and secure with wing bolt 'K'.
6. Close and lock hatch cover and reposition carpet.

3B—'Accidents & Emergencies'—CHANGING A TYRE

CAUTION:
- **Use jack only for lifting vehicle when changing wheels.**
- **Never get beneath the vehicle when it is supported by the jack only.**
- **Do not start or run the engine while the vehicle is supported by the jack only.**
- **All passengers should be out of the vehicle when it is being jacked.**

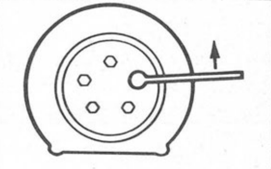
1. Park on level surface and set parking brake firmly.
2. Set automatic transmission in park (manual transmission in reverse) and remove ignition key.
3. Remove the tools and spare wheel (refer previous page.)
4. Block the wheel diagonally opposite the jacking position.
5. Remove the wheel trim.

WHEEL COVERS (Where Fitted)

Push the blade end of the wheel nut wrench between the wheel cover and the wheel and force it in for about half the length of the blade. Moving round the wheel, lightly pry the cover off at several points by twisting the wrench away from the tyre.

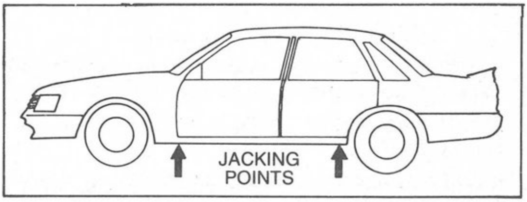
WHEEL CENTRE TRIM (Alloy Wheels)

Insert the blade of the wheel nut wrench into the slot in the wheel and gently lever off by moving the wrench towards the wheel face.

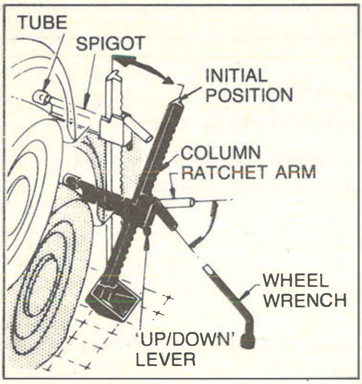


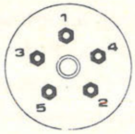
LOOSENING WHEEL NUTS

6. Loosen, but do not remove, wheel nuts by turning wrench counter-clockwise.
7. Place column in base, feed spigot into tube provided in vehicle body and position base as illustrated on following page with the angled face on the ground directly below the sill of the vehicle.
8. Move 'up/down' lever to 'UP' position, insert wheel wrench into ratchet arm and with steady pumping action raise vehicle until tyre clears ground.



CHANGING A TYRE cont.





Wheel Nut Tightening Sequence

9. Remove the wheel nuts and avoid losing them or getting dirt in the threads. Remove the wheel and change it over with the spare.
10. Tighten the wheel nuts finger tight and then lightly tighten using the wrench.
11. Move 'up/down' lever to 'DOWN' position, then lower vehicle using steady pumping action. After completely lowering the vehicle, remove the jack.
12. Fully tighten wheel nuts with the wrench using the nut tightening sequence illustrated.
13. Replace the wheel trim and stow the tools and changed wheel according to the previous instructions.

WHEEL COVERS

Position the cover so that the valve hole in the cover is directly over the valve. While pressing the cover firmly against the wheel at the lowest position, knock the cover onto the wheel with several light blows using the palm of the hand. Repeat this operation at several positions around the edge of the cover until a secure installation is obtained.

CAUTION: It may be necessary to protect the hand during this operation.

WHEEL CENTRE TRIM

Position the centre trim with at least 3 clips located in the wheel cavity and press firmly into position.

CAUTION: As soon as possible after changing a wheel, you should have the wheel nuts tightened with a torque wrench on 100-108 Nm (75-80 ft.lbs).

Wheel nuts should be tightened evenly to the correct torque in the numerical sequence shown.

Improperly tightened wheel nuts could eventually allow the wheel to come off while the car is moving, possibly causing loss of control, and/or personal injury or damage.

SECTION 4

WARRANTY AND CUSTOMER ASSISTANCE

page 61 —Terms of Warranty

page 63 —Common Warranty Questions and Answers

page 66 —Customer Assistance

page 67 —GM-H Dealers—N.S.W.

page 69 —GM-H Dealers—A.C.T.

page 70 —GM-H Dealers—Victoria

page 71 —GM-H Dealers—Tasmania

page 72 —GM-H Dealers—Queensland

page 74 —GM-H Dealers—South Australia

page 73 —GM-H Dealers Western Australia

page 74 —GM-H Dealers—N.T.

GENERAL MOTORS-HOLDEN'S SALES PTY. LIMITED

(Incorporated in Victoria)

New Vehicle Warranty

GENERAL MOTORS-HOLDEN'S SALES PTY. LTD. HEREBY WARRANTS THAT IT WILL MAKE GOOD, WITHOUT CHARGE, ANY DEFECT WHICH APPEARS IN THE VEHICLE IDENTIFIED IN THE VEHICLE IDENTIFICATION CERTIFICATE FOUND ON THE INSIDE OF THE FRONT COVER.

Provided

1. the defect has been notified to an authorised GMH Dealer or Service Dealer:
   (a) before the vehicle has travelled a distance of 20,000 km, or:
   (b) within 12 months of the date of delivery of the vehicle to the first retail purchaser (or in the case of a Demonstrator vehicle within 12 months of the date when it was first placed into service by the Dealer)
   whichever comes first, and
2. the vehicle has been returned to an authorised GMH Dealer or Service Dealer

And

3. the Dealer has determined that the defect complained of *is* one of material or workmanship and *is not* caused by:
   (a) misuse or abuse of the vehicle such as by racing, rallying, overloading, etc. or by neglect
   (b) operation of the vehicle after it is known to be defective
   (c) accident or deliberate act
   (d) atmospheric fallout or flood, hail, salt, etc.
   (e) failure to carry out proper maintenance service
   (f) use of incorrect types and grades of fuel, oil or lubricants
   (g) alteration or modification of the vehicle
   (h) the fitting of parts or accessories not marketed by GMH
   (i) any work carried out on the vehicle by someone other than an authorised GMH Dealer or Service Dealer,

BY THE DEALER (or as otherwise decided by GMH Sales) MAKING GOOD THE DEFECT BY REPAIR OR, AT THE OPTION OF GMH SALES, BY REPLACEMENT.

Excluded from this Warranty are

- defects in tyres (these being warranted by their manufacturers), and services such as engine tuning, brake adjustment, replacement of air and oil filters, wiper rubbers, etc. which are required as part of normal vehicle maintenance.

This Warranty applies only to vehicles operated in Australia and is given to the person who is entitled to possession of the vehicle whether as owner, lessee or otherwise and is given in addition to all rights conferred by law on that person.

Owners of vehicles operated outside Australia should consult their local dealer regarding the warranty applicable to their vehicles.

SPECIAL NOTICES TO OWNERS

AVAILABILITY OF SERVICE AND PARTS AFTER WARRANTY

General Motors-Holden's Limited and General Motors-Holden's Sales Pty. Ltd. have franchised dealers in many parts of Australia for the sale of service parts and the provision of service to owners of GMH's products. Every endeavour is made to ensure that such dealers carry adequate stocks of service parts and are equipped to provide satisfactory service, but neither General Motors-Holden's nor General Motors—Holden's Sales Pty. Ltd. makes any promise that after the expiration of the warranty such parts or service facilities will be available, or available at any specific location or at any particular time.

UNAUTHORISED STATEMENTS IN RELATION TO GMH PRODUCTS

No GMH dealer or other person is authorised or permitted to give or make any statement assertion or undertaking in relation to the quality, performance, characteristics, descriptions or fitness for any purpose of any GHM product or in connection with the supply of any GMH product, which is at variance with any written statement assertion or undertaking on any of these subjects given or made by General Motors-Holden's Limited or General Motors-Holden's Sales Pty. Ltd. in its published sales literature, and neither company accepts any liability for any such unauthorised action.

WARRANTY ON GMH REPLACEMENT PARTS

General Motors-Holden's Limited warrants in respect of GMH parts and accessories required as replacement parts, that it will make good by repair or at its option by replacement any defect occurring in any such GMH parts and accessories within 12 months from the date of acquisition or in the case of a GMH part or accessory which has been installed in a vehicle by a GMH Dealer or Service Dealer before such vehicle has travelled a distance of 20,000 kms from the date of installation, whichever first occurs.

WARRANTY QUESTIONS

This section is designed to assist you in understanding the terms of the GMH Warranty provided with your new vehicle.

The following are some of the most frequently asked questions for which detailed answers have been provided.

1. **Q. How do I go about obtaining GMH Warranty Service?**

   A. It is the responsibility of the Selling Dealer to provide GMH Warranty Service therefore you should take your vehicle to that Dealer whenever GMH Warranty Service is required. However, if it is not possible for you to take your vehicle to the Selling Dealer (for example—if you are on a long trip, have shifted to another location or have other difficulties) you may take your vehicle to any other Authorised GMH Dealer. The Owner and Vehicle Identification details recorded on the inside front cover of this handbook are required by the Servicing Dealer in connection with the provision of GMH Warranty Service. Therefore, you should present this Handbook to the Servicing Dealer whenever you request GMH Warranty Service.

   NOTE: 1500 kilometre Warranty Service may be carried out by another GMH Dealer provided you have a letter of Introduction from the Selling Dealer. This letter must be arranged prior to obtaining the 1500 kilometre service.

2. **Q. What should I do if in an emergency GMH Warranty Serice is required and an Authorised GMH Dealer is not available to provide such service at that time?**

   A. If in an emergency a repair, replacement or adjustment of a kind covered by the GMH New Vehicle Warranty is required to enable your vehicle to be operated safely and it is not practicable for you to have that service performed by the Selling Dealer or another Authorised GMH Dealer, the service, but only to the extent that it is necessary to enable your vehicle to be operated safely may be performed by any other qualified service technician or repairer. A claim for the reasonable cost of such service may be made on GMH through the Selling Dealer or the Authorised GMH Dealer who would normally provide you with GMH Warranty Service. When such emergency service has been performed by other than the Selling Dealer or an Authorised GMH Dealer you should take your vehicle to the Selling Dealer or an Authorised GMH Dealer for inspection of the service and/or the completion of any required GMH Warranty Service as soon as possible.

3. **Q. What should I do if my vehicle becomes unsafe or inoperative as a result of a defect which is covered by the GMH New Vehicle Warranty?**

   A. If, as a result of a defect which is covered by the GMH New Vehicle Warranty your vehicle cannot be driven or is unsafe to drive you should contact the nearest Authorised GMH Dealer as soon as possible and arrange for that Dealer to carry out the required GMH Warranty Service.

4. **Q. Will I have to pay for any costs or expenses in connection with the provision of GMH Warranty Service?**

A. All parts and labour used and supplied in carrying out GMH Warranty Service at the premises of the Servicing Dealer are free of charge. Whenever GMH Warranty Service is to be carried out by the Servicing Dealer it is your responsibility to deliver your vehicle to the Servicing Dealer's premises and to collect it from those premises when the Warranty Service has been completed.

If as a result of a defect which is covered by the GMH New Vehicle Warranty your vehicle cannot be driven or cannot be driven safely and you arrange for the nearest Authorised GMH Dealer to carry out the required GMH Warranty Service, such reasonable costs and expenses as are incurred in moving your vehicle to that Authorised GMH Dealer's premises or, if that Dealer so elects, in performing the required GMH Warranty Service at the place where your vehicle is located (or at some other location) will be covered by the GMH New Vehicle Warranty.

5. **Q. Are damage or injury, loss of time, inconvenience, commercial or other direct or indirect loss covered by the GMH New Vehicle Warranty?**

A. No, these items are not covered. The GMH New Vehicle Warranty covers only the repair, replacement or adjustment at the Servicing Dealer's premises of those parts of your vehicle which are found by GMH to be defective in materials or workmanship during the GMH Warranty Period. No other types of claim for compensation of whatever nature, notwithstanding that the same may have resulted from or have arisen as a consequence of a defect in materials or workmanship in your vehicle or in any part of your vehicle, will be recognized under the GMH Warranty. The rights and remedies which are available to you under any relevant Statutory Enactment or otherwise at law in connection with any such claim for compensation must be pursued outside the ambit of the GMH Vehicle Warranty.

6. **Q. Will I have to pay Maintenance costs during the Warranty Period?**

A. Maintenance costs, since they do not arise from defects in materials or workmanship, are not covered by the GMH Vehicle Warranty. However, the scheduled 1500 kilometre service specified in Section 6B of this handbook is free of charge (except for any lubricants used) provided that your vehicle has been operated under Normal Conditions (refer "Vehicle Operating Conditions" Section 6B of this handbook) and provided also that no modifications (other than a modification made by or at the direction of GMH) has been made to your vehicle which adversely affects the Performance and/or Compliance of your vehicle. The Maintenance Schedules in this handbook specify the minimum maintenance requirements for your Vehicle operating under Normal Conditions. If you operate under Extreme Conditions (refer "Vehicle Operating Conditions", section 6B) your vehicle may require more frequent maintenance services. See your Servicing Dealer for advice on these matters.

The Maintenance items, except where they are required as a result of defects in materials or workmanship, for which you will be required to pay include:—

- Engine tune-up—includes replacing spark plugs.
- Replacement of all filters.
- Cleaning or flushing of fuel, cooling, brake, engine, transmission, differential or power steering systems—after 1,500 kilometres.

- Adding to or replacing lubricants.
- Adding to or replacing air conditioning refrigerant—after 5,000 kilometres.
- Any necessary adjustments to drive belts, transmission, clutch, parking brake, etc.
- Replacing wiper blade rubber elements.
- Wheel balancing—after 5,000 kilometres.
- Wheel alignment.
- De-dusting or de-glazing of brake linings or pads—after 1,500 kilometres.
- Brake lining wear or damage.
- Brake disc pad or disc wear.
- Battery re-charging.
- Paint, bright metal finish and trim, due to normal deterioration.
- Body panel, adjustment—after 1,500 kilometres.
- Door, engine hood or rear compartment lid lock adjustments.
- Glass or channel adjustments—after 1,500 kilometres.
- Body rattles, squeaks and general tightening of bolts, fastening and fittings—after 1,500 kilometres.
- Chipped glass of breakage.
- Torn or damaged floor mats or carpets.

7. **Q. Are my tyres covered by the GMH Vehicle Warranty?**

A. No. The tyres fitted to your vehicle are covered by a separate warranty provided by the tyre manufacturer.

This warranty arrangement does not deprive you of any of those rights and remedies which are conferred upon you by Statutory Enactment.

Either the Selling Dealer or the Servicing Dealer will assist you by discussing any queries which you may have with respect to the tyre manufacturer's warranty, with the tyre manufacturer's representatives.

8. **Q. Are GMH Parts and Accessories covered by warranties?**

A. If your purchase a GMH Part or Accessory from an Authorised GMH Dealer it will be warranted by that Dealer under the GMH Parts and Accessories Warranty against defects in materials or workmanship for a period of 12 months from the date on which you purchased it. In the case of a GMH Part or Accessory which has been installed in a vehicle by a GMH Dealer or Service Dealer it will be warranted for a period of 12 months or a distance of 20,000 kms from the date of installation, whichever occurs first.

Maintenance items such as filters, spark plugs, wiper blades and brake pads/linings will require replacement as part of normal vehicle maintenance. Such replacements are not the subject of this warranty.

CUSTOMER ASSISTANCE

We want you to be happy with your new vehicle together with the people you deal with while you have the vehicle.

Normally, any problems which may arise with the sales transaction, operation or servicing of your vehicle will be handled by your Dealer's Sales and Service department.

We realise however that, with the best intentions, misunderstandings do occur sometimes.

Accordingly, we suggest you discuss any concern with one of the Dealer's management people. If you feel you haven't received satisfaction from the Sales Manager or Service Manager—go to the General Manager or to the Dealer himself.

By now you should have satisfaction. If not, you have the facility of the GM-H Customer Assistance Service office at your disposal. The GM-H Customer Assistance representatives can be telephoned from anywhere within Australia outside the Melbourne Metropolitan area (for only the cost of a local call) on 008 033349. The Melbourne area number is 646 5466.

If your concern relates to parts/accessories and you have made contact with the Dealer or Distributer without satisfaction, you may contact General Motors Parts & Accessories Division on (03) 797 7341.

Naturally, telephoning is both the quickest and the best way of contact. However, if you prefer to write the address is:

The Manager
GM-H Customer Assistance Services
GPO Box 548D
Melbourne, 3001

Your letter should clearly outline your concern or query, and include the following:

—Your name and address
—Telephone numbers, both Private and Business
—Selling dealership name and address
—Servicing dealership name and address
—Vehicle model
—Vehicle identification number (VIN)
—Date of purchase
—Current odometer reading

Most of this information will be found on the vehicle identification certificate, located inside the front cover of this book.

Before you write however, remember that the telephone is the quicker and more efficient means of communication.

AUTHORISED GM-H DEALERS

(Note: Dealership names and locations listed are effective at the time of printing. These may change from time to time without notice.)

NEW SOUTH WALES—Metropolitan Dealers

ARNCLIFFE
Suttons Motors (Arncliffe) Pty. Ltd.,
93 Princes Highway

ASHFIELD
Muirs Motors (Ashfield) Pty. Ltd.,
252 Parramatta Road

BALGOWLAH
Boyded Balgowlah
164 Condamine Street

BAULKHAM MILLS
Tony Packard Holden
Cnr. Victoria Ave. & Windsor Road

BLACKTOWN
West City Motors Pty. Ltd.,
120-128 Sunnyholt Road

CABRAMATTA
Ron Hodgson Holden
266 Hume Highway

CAMPBELLTOWN
Paul Wakeling Holden
63 Blaxland Road

CHULLORA
Sutton Motors (Chullora) Pty. Ltd.,
Cnr. Hume Highway & Waterloo Road

CROWS NEST
J. N. Caldwell (Holdings) Pty. Ltd.,
1 Alexander Street

DEE WHY
Barry Smith Holden
Cnr. May & Mooramba Roads

GORDON
Sundell Holden
Cnr. 836 Pacific Highway & McIntyre Street

HOMEBUSH
Sutton Motors (Homebush)
112 Parramatta Road

HOMEBUSH
Gilbert & Roach Pty. Ltd.,
167-173 Parramatta Road

KINGSFORD
John Pellegrini Holden
263-271 Anzac Parade

LAKEMBA
Nash Holden
1018 Canterbury Road

LIVERPOOL
A. C. McGrath & Co. Pty. Ltd.,
Cnr. Casterleagh St & Hume Highway

MIRANDA
Greg Ball Holden
1-3 Kiora Road

NEWPORT
Mobil-Newport
Cnr Barrenjoey Road & Seaview Avenue

PADSTOW
Purnell Bros. Holden
19 Davies Road

AUTHORISED GM-H DEALERS

PARRAMATTA
Boyded Paramatta
65 Church Street

PENNANT HILLS
Les Vagg Holden
351-355 Pennant Hills Road

PENRITH
Lance Motors (Penrith) Pty Ltd)
39-47 Henry Street

RANDWICK
Boyded Randwick
265 Avoca Street

ROCKDALE
Boyded Rockdale
571 Princes Highway

RYDE
Muirs Motors (Ryde) Pty. Ltd.,
603-605 Victoria Road

ST. MARY'S
Lance Motors Pty. Ltd.,
Cnr. Glossop & Harris Streets

WAITARA
Suttons Motors
90 Pacific Highway

WARRAWONG
Dwyers Warrawong
King Street

WINDSOR
Erichson Motors
122 George Street

NEW SOUTH WALES—Country Dealers & Service Dealers

Consult your local Yellow Pages under Motor Cars—New for Addresses and Telephone Numbers.

- ADELONG
- ALBURY
- ARDLETHAN
- ARMIDALE
- BALLINA
- BARADINE
- BARHAM
- BATHURST
- BEGA
- BELLINGEN
- BELMONT
- BLAYNEY
- BOMBALA
- BOURKE
- BOWRAL
- BREWARRINA
- BROKEN HILL
- CANOWINDRA
- CARDIFF
- CASINO
- CESSNOCK
- COBAR
- COFF'S HARBOUR
- COLLARENEBRI
- CONDOBOLIN
- COOLAMON
- COOMA
- COONABARABRAN
- COONAMBLE
- COOTAMUNDRA
- COROWA
- COWRA
- CROOKWELL
- CULCAIRN
- DENILIQUIN
- DORRIGO
- DUBBO
- DUNGOG
- EDEN
- FINLEY
- FORBES
- GILGANDRA
- GLEN INNES
- GLOUCESTER
- GOSFORD
- GOULBURN
- GRAFTON SOUTH
- GRENFELL
- GRIFFITH
- GULARGAMBONE
- GUNDAGAI
- GUNNEDAH
- GUNNING
- GUYRA
- HARDEN
- HAY
- HOLBROOK
- INVERELL
- JERILDERIE
- JUNEE
- KANDOS
- KATOOMBA

- KEMPSEY
- KIAMA
- KURRI KURRI
- KYOGLE
- LAKE CARGELLIGO
- LEETON
- LISMORE
- LITHGOW
- MACKSVILLE
- MACLEAN
- MAITLAND
- MILTON
- MOLONG
- MOREE
- MORUYA
- MUDGEE
- MULLUMBIMBY
- MUNGINDI
- MURWILLUMBAH
- MUSWELLBROOK
- NARRABRI
- NARRANDERA
- NARROMINE
- NEWCASTLE
- NOWRA
- NYNGAN
- ORANGE
- PARKES
- PEAK HILL
- PORT MACQUARIE
- QUIRINDI
- SCONE
- SINGLETON
- SPRINGWOOD
- TAMWORTH
- TAREE
- TEMORA
- TENTERFIELD
- TORONTO
- TUMBARUMBA
- TUMUT
- TWEED HEADS
- WAGGA
- WALCHA
- WALGETT
- WALLA WALLA
- WAUCHOPE
- WARIALDA
- WARILLA
- WARREN
- WELLINGTON
- WEST WYALONG
- WINGHAM
- WOODENBONG
- WOLLONGONG
- WYONG
- YASS
- YOUNG

AUSTRALIAN CAPITAL TERRITORY

BELCONNEN
Gerald Slaven Holden
Josephson Street

CANBERRA CITY
Beazley & Bruce Pty. Ltd.,
44 Mort Street

WODEN
Commonwealth Motors Pty. Ltd.,
158 Melrose Drive

4—'Warranty & Customer Assistance'—

AUTHORISED GM-H DEALERS

VICTORIA— Metropolitan Dealers

BERWICK
Neil & Ross Neilson
755 Princes Highway

BRAYBROOK
Kevin Dennis Holden
272 Ballarat Road

BUNDOORA
Davies Dwyer Pty. Ltd.,
413 Grimshaw Street

BURWOOD
Dustings Hillyer Holden
1200 Toorak Road

CAULFIELD
Booran Holden
1049 Glenhuntly Road

CHELSEA
Harrison Holden
370 Nepean Highway

CHELTENHAM
Balmoral Holden
1212 Nepean Highway

DANDENONG
Graeme Blanchard Holden
Princes Highway

DANDENONG
Patterson Cheney Pty. Ltd.,
200 Cheltenham Road

DONCASTER
Lance Dixon Holden
601 Doncaster Road

ELSTERNWICK
Reg Hunt Motors Pty. Ltd.,
77 Nepean Highway

ESSENDON
Preston Motors (Essendon) Pty. Ltd.,
201-211 Keilor Road

FAWKNER
Mantello Holden
1263 Sydney Road

FERNTREE GULLY
Neilson Holden F.T.G.
980 Burwood Road

FOOTSCRAY
Alan Mance Holden
435 Barkley Street

FOOTSCRAY
Patterson Cheney Pty. Ltd.,
130 Moreland Road

FRANKSTON
Bayside Holden
140 Dandenong Road

GEELONG
R & B Smith Pty. Ltd.,
510 Moorabool Street

GEELONG
Winter & Taylor (Sales) Pty. Ltd.,
23 Cavendish Street

GLEN WAVERLEY
Geoff Brady Holden
565-577 Springvale Road

HASTINGS
Westernport Holden
762 Flinders Road

HEIDELBERG WEST
Arthur Ellis Holden
66 Bell Street

LILYDALE
Noel Dight Holden
Main Street

MORNINGTON
Peninsula Holden
Cnr. Nepean Highway & Tyabb Road

OAKLEIGH
Garry & Warren Smith Pty. Ltd.,
1575 Dandenong Road

PRESTON
Graham Hunt Holden
518 High Street

RINGWOOD
Patterson Cheney Holden
45-57 Maroondah Highway

SOUTH MELBOURNE
Patterson Cheney Holden
132 Sturt Street

WERRIBEE
Ballan Holden
Princes Highway

WEST MELBOURNE
Reg Hunt Motors
577 King Street

4—'Warranty & Customer Assistance'—AUTHORISED GM-H DEALERS

VICTORIA—Country Dealers & Service Dealers

Consult your local Yellow Pages under Motor Cars—New for Addresses and Telephone Numbers.

- ALEXANDRA
- ARARAT
- BACCHUS MARSH
- BAIRNSDALE
- BALLARAT
- BENALLA
- BENDIGO
- BIRCHIP
- BOORT
- CAMPERDOWN
- CASTERTON
- CASTLEMAINE
- CHARLTON
- COBRAM
- COHUNA
- COLAC
- COLERAINE
- CORRYONG
- DAYLESFORD
- DERRINALLUM
- DIMBOOLA
- DONALD
- ECHUCA
- EUROA
- HAMILTON
- HOEPTOUN
- HORSHAM
- KANIVA
- KERANG
- KOOWEERUP
- KORUMBURRA
- KYABRAM
- KYNETON
- LEONGATHA
- MAFFRA
- MANSFIELD
- MARYBOROUGH
- MILDURA
- MINYIP
- MORTLAKE
- MOE
- MURRAYVILLE
- NATHALIA
- NHILL
- NULLAWIL
- NUMURKAH
- NYAH
- PORTLAND
- QUAMBATOOK
- RAINBOW
- ROCHESTER
- RUTHERGLEN
- SALE
- SEALAKE
- SEYMOUR
- SHEPPARTON
- ST. ARNAUD
- STAWELL
- SWAN HILL
- TALLANGATTA
- TIMBOON
- TRARALGON
- UNDERBOOL
- WANGARATTA
- WARBURTON
- WARRACKNABEAL
- WARRAGUL
- WARRNAMBOOL
- WODONGA
- WONTHAGGI
- WHYCHEPROOF
- YARRAM
- YARRAWONGA

TASMANIA—Metropolitan & Country Dealers & Service Dealers

HOBART
Motors Pty. Ltd.,
179 Macquarie Street

BURNIE
Motors Pty. Ltd.,
84-89 Marine Terrace

DEVONPORT
Motors Pty. Ltd.,
628 Victoria Parade

LAUNCESTON
Motors Pty. Ltd.,
93 Elizabeth Street

SMITHTON
Motors Pty. Ltd.,
16 Nelson Road

ULVERSTONE
Motors Pty. Ltd.,
99 Reibey Street

KING ISLAND
Island Motors Pty. Ltd.,
Netherby Road, Currie

AUTHORISED GM-H DEALERS

QUEENSLAND—Metropolitan Dealers

ALBION
Bill Harrison Car Sales
Frodsham Street & Crosby Road

ASPLEY
Zupps (Aspley) Pty. Ltd.,
1442 Gympie Road

CLEVELAND
Russell Smith Holden
Cnr. Queen & Doig Streets

IPSWICH
Zupps Holden
246 Brisbane Road, Booval

MOOROOKA
John Sivyer Holden
1060 Ipswich Road

MT. GRAVATT
Zupps Motors Pty. Ltd.,
1310 Logan Road

NEWSTEAD
Eagers Retail Pty. Ltd.,
95 Breakfast Creek Road

NUNDAH
Eagers (Northside)
1319 Sandgate Road

PETRIE
North Pine Motors Pty. Ltd.,
Gympie Road

REDCLIFFE
Village Holden
425 Elizabeth Avenue

SPRINGWOOD
Motorama Holden
Pacific Highway & Brennan Street

WINDSOR
Leach Holden
143 Newmarket Road

WYNNUM
Doug Barton Holden
200 Tingal Road

QUEENSLAND—Country Dealers & Service Dealers

Consult your local Yellow Pages under Motor Cars—New for Addresses and Telephone Numbers.

- ATHERTON
- AUGATHELLA
- AYR
- BEAUDESERT
- BEERWAH
- BILOELA
- BLACKALL
- BOWEN
- BUNDABERG
- CABOOLTURE
- CAIRNS
- CALOUNDRA
- CHARLEVILLE
- CHARTERS TOWERS
- CLERMONT
- CLONCURRY
- CROWS NEST
- CUNNAMULLA
- DALBY
- DIRRANBANDI
- EMERALD
- GATTON
- GAYNDAH
- GLADSTONE
- GOONDIWINDI
- GYMPIE
- HUGHENDEN
- INGHAM
- INNISFAIL
- JULIA CREEK
- KILCOY
- KINGAROY
- LAIDLEY
- LONGREACH
- MACKAY
- MAREEBA
- MARYBOROUGH
- MITCHELL
- MONTO
- MORANBAH
- MOURA
- MT. ISA
- MURGON
- NAMBOUR
- NANANGO
- NOOSA HEADS
- PROSERPINE
- QUILPIE
- ROCKHAMPTON
- ROMA
- SOUTHPORT
- SPRINGSURE
- STANTHORPE
- ST. GEORGE
- TOOWOOMBA
- TOWNSVILLE
- TULLY
- WARWICK
- WINTON
- YUEBA

4—'Warranty & Customer Assistance'—AUTHORISED GM-H DEALERS

WESTERN AUSTRALIA—Metropolitan Dealers

BELMONT
Major Motors
255 Great Eastern Highway

CANNINGTON
Brian Gardner Holden
1308 Albany Highway

FREMANTLE
Shack Motors
64 Queen Victoria Street

GOSNELLS
Lance Gibbons Holden
2325 Albany Highway

MANDURAH
Estuary Holden
1 Gibson Street

MELVILLE
Melville Motors Pty. Ltd.,
532-536 Canning Highway

MIDLAND
John Goldie Holden
161 Great Eastern Highway

MORLEY
Metro Motors Pty. Ltd.,
212 Walter Road

NAVAL BASE
Shacks Cockburn
Rockingham Road

OSBORNE PARK
North City Holden
Cnr. Scarborough Beach Rd & Harbourne St

PERTH
City Motors
505 Newcastle Street

VICTORIA PARK
Young's Holden
529 Albany Highway

WANNEROO
Phoenix Holden
316 Berriman Drive

WESTERN AUSTRALIA—Country Dealers & Service Dealers

Consult your local Yellow Pages under Motor Cars—New for Addresses and Telephone Numbers.

- ALBANY
- BEVERLEY
- BOYUP BROOK
- BRIDGETOWN
- BROOKTON
- BUNBURY
- BRUCE ROCK
- BUSSELTON
- CARNAMAH
- CARNARVON
- COLLIE
- CORRIGIN
- CRANBROOK
- DALWALLINU
- ESPERANCE
- GERALDTON
- GNOWANGERUP
- GOOMALLING
- KALGOORLIE
- KATANNING
- KELLERBERRIN
- KOJONUP
- KUNUNURRA
- MANJIMUP
- MERREDIN
- MOORA
- MORAWA
- MT. BARKER
- NAREMBEEN
- NARROGIN
- NORTHAM
- PINJARRA
- PORT HEDLAND
- WAGIN
- WILLIAMS
- WYALKATCHEM

4—'Warranty & Customer Assistance'—AUTHORISED GM-H DEALERS

SOUTH AUSTRALIA—Metropolitan Dealers

ADELAIDE
City Holden
203-221 Grenfell Street

ADELAIDE
United Motors Retail Ltd.,
72 Franklin Street

ELIZABETH
Peter Page Holden
Elizabeth Way

GLENELG
John H. Ellers Pty. Ltd.,
232 Brighton Road

MALVERN
Claridge Motors Pty. Ltd.,
361-367 Unley Road

MILE END
United Motors Co. Pty. Ltd.,
71 West Beach Road

PORT ADELAIDE
Smith Motor Co. Pty. Ltd.,
171 Commercial Road

REYNALLA
Brian Gill Holden
49-59 Main South Road

VALLEY VIEW
Plaza Holden
817-839 North East Road

SOUTH AUSTRALIA—Country Dealers & Service Dealers

Consult your local Yellow Pages under Motor Cars—New for Addresses and Telephone Numbers.

- BALAKLAVA
- BERRI
- BURRA
- CEDUNA
- CLARE
- CLEVE
- CRYSTAL BROOK
- CUMMINS
- GAWLER
- JAMESTOWN
- KADINA
- KEITH
- KINGSCOTE
- KINGSTON
- LAMEROO
- LOXTON
- MAITLAND
- MALLALA
- MENINGIE
- MILLICENT
- MT. BARKER
- MT. GAMBIER
- MURRAY BRIDGE
- NARACOORTE
- ORROROO
- PORT AUGUSTA
- PORT LINCOLN
- PORT PIRIE
- RENMARK
- STRATHALBYN
- TANUNDA
- VICTOR HARBOUR
- WAIKERIE
- WHYALLA
- WUDINNA
- YANKALILLA
- YORKETOWN

NORTHERN TERRITORY—Dealers

ALICE SPRINGS
Kittle Bros (Alice Springs) Pty. Ltd.,
Cnr. Wills Terrace & Railway Terrace

DARWIN
Suttons Motors (Darwin) Pty. Ltd.,
21-25 Stuart Highway

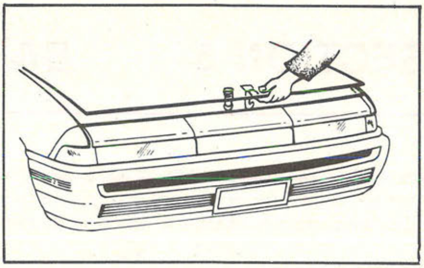
SECTION 5 BASIC MAINTENANCE

As well as taking your car 'in for a service' (refer to page 88), there are a few inspections that the owner (or nominee) is required to make. These checks are simple once you know how, and are necessary to keep your car in good, safe, working order.

page 76	Raising and Securing the Bonnet	
page 77	Location for Checks	
page 78	ENGINE OIL level check	refuelling stops
page 79	AUTOMATIC TRANSMISSION (if fitted) fluid level check	weekly
page 80	ENGINE COOLANT level check	weekly
page 81	TYRE AIR PRESSURE check	weekly
page 82	Topping up the WINDSCREEN WASHER fluid and the TAILGATE WASHER fluid	weekly
page 83	BATTERY fluid level check	weekly
page 84	CLUTCH (if fitted) fluid level check	weekly
page 82	POWER STEERING (if fitted) fluid level check	weekly
page 84	BRAKE fluid level check	weekly
page 85	Miscellaneous Checks	regularly

BONNET

To open the engine hood, pull hood lock release located beneath the instrument panel, to the right of the steering column. This allows the hood to release but is prevented from opening by the safety catch. To open completely, reach in between the grille and hood to lift safety catch upward. Hold in this position, raise hood and support by inserting support rod into the provided slot. For closing, return support rod to its resting position and lower hood gradually to be finally dropped by its own weight.



Always check to make certain hood is properly secured. If necessary, check that release handle below the instrument panel is pushed-in to its normal position.

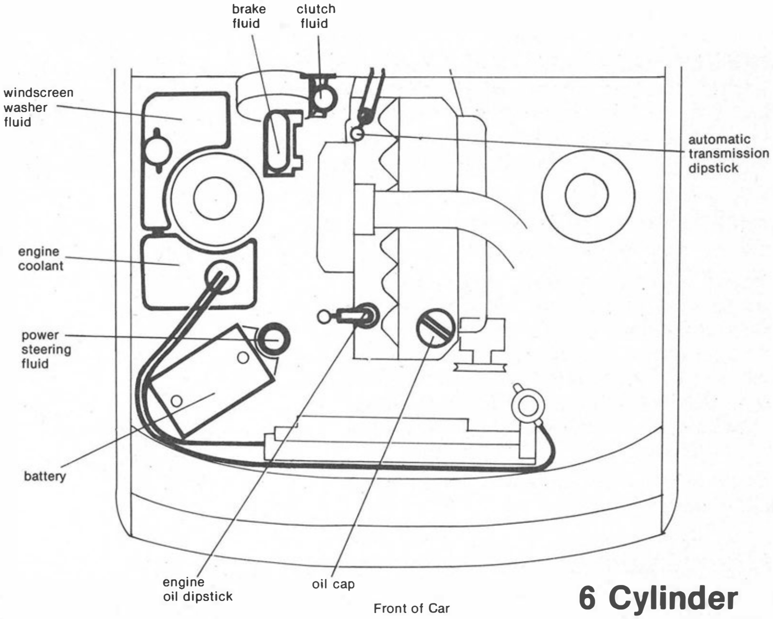
CAUTION: Avoid inhaling exhaust gases because they contain carbon monoxide, which is a dangerous gas that can cause unconsciousness and is potentially lethal.

DO NOT RUN THE ENGINE IN AN ENCLOSED AREA SUCH AS THE GARAGE ANY LONGER THAN IS NEEDED TO MOVE THE VEHICLE.

DO NOT SIT IN A PARKED VEHICLE FOR ANY EXTENDED PERIOD OF TIME WITH THE ENGINE RUNNING.

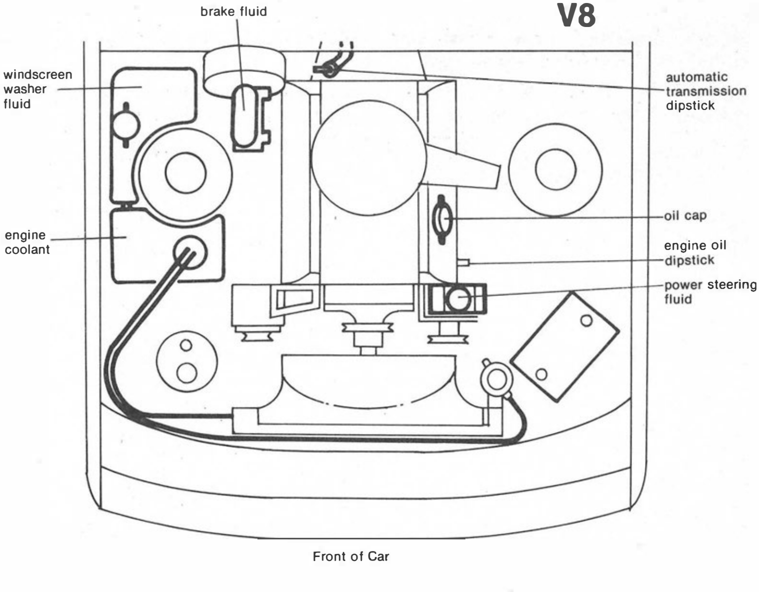
If at any time you think exhaust fumes are entering the car, have the cause determined and corrected as soon as possible.

5—'Basic Maintenance'—CHECK LOCATIONS


brake fluid
clutch fluid
windscreen washer fluid
automatic transmission dipstick
engine coolant
power steering fluid
battery
engine oil dipstick
oil cap
Front of Car

6 Cylinder

V8

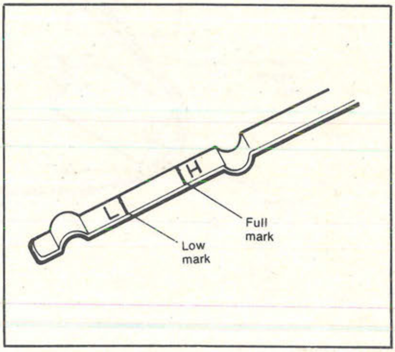

brake fluid
windscreen washer fluid
automatic transmission dipstick
engine coolant
oil cap
engine oil dipstick
power steering fluid
Front of Car

5—'Basic Maintenance'—CHECKING ENGINE OIL LEVEL

The engine oil must be maintained at the right level to assure proper lubrication of your car's engine. It is the owner's responsibility to check the oil level at regular intervals. The best time to check the engine oil level is when the oil is warm, such as during a refueling stops. During the running—in period you should check the oil level more frequently since oil consumption may be higher.

To check the engine oil level accurately, the car must first be on level ground. After stopping the engine, wait a few minutes for the oil to drain back to the oil pan.

The level is checked from the 'dipstick'. Refer to the diagram on page 77 for location.



Remove the dipstick and wipe it clean with clean cloth or paper. Insert the dipstick firmly all the way down, pause for a second then withdraw the dipstick and look at the oil level on it. The oil level should be maintained between the two marks, neither going above the FULL mark nor under the LOW mark. Remember to reinsert the dipstick firmly after taking the reading.

The distance between LOW and FULL marks represents approximately 1 litre of oil.

If you need to add oil, use SF grade engine oil 20W/40 (or 20W/50 in high temperature areas).

To add oil, turn the oil cap (refer page 77 for location) anticlockwise and remove. Pour the required oil into the opening. Wait a few minutes for the oil to drainback into the oil pan. Then check the oil level with the dipstick again. If still too low, add more oil, if now correct, screw the cap back on tightly and replace the dipstick.

If you check the oil level when the oil is cold do not run the engine first. The cold oil will not drain back into the oil pan fast enough to give a true oil level reading.

NOTE: If oil has to be added often, there may be a problem or leak—and you should see your GM-H Dealer. (Refer to page 135 for oil consumption notes.)

5—'Basic Maintenance'—AUTOMATIC TRANSMISSION FLUID CHECK (if fitted)

The level of fluid in the automatic transmission should be checked weekly, by looking at the fluid level on the dipstick. Refer to the diagram on page 77 for location. Dirt in the transmission can cause breakdowns, so be careful when checking or adding fluid.

The fluid level should be checked after the car has been driven for at least 10 minutes—so that the oil is warm.

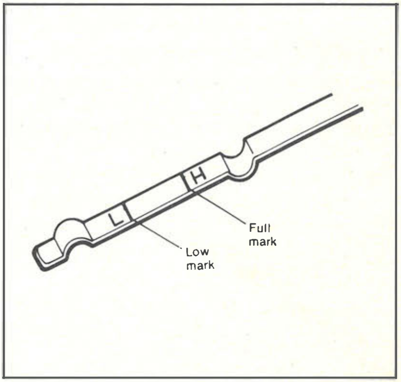
The car must be standing on level ground with the engine running.

The gear shift selector should be in PARK and the hand brake applied.

Remove the dipstick, wipe it clean with a clean cloth or paper and reinsert it fully. Now remove it again, and read the fluid level.

If the level is at or below the 'L' mark, add fluid until the oil level reaches the 'H' mark.

The distance between the 'L' and 'H' marks represents approximately half a litre. The level should never read over the 'H' mark, so be careful not to add too much.



If adding fluid, use only *DEXRON 11 AUTOMATIC TRANSMISSION FLUID. Add the fluid in the same opening as the dipstick is stored in, and wait 1 minute for the oil to settle. Again check the level with the dipstick and add further oil if necessary. Remember to always replace the dipstick.

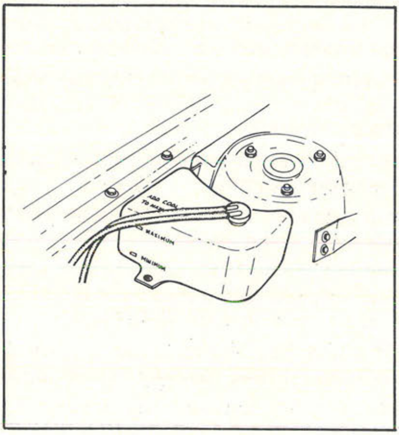
NOTE: If fluid has to be added often, there may be a problem or leak—and you should see your GM-H Dealer.

*DEXRON 11 is a registered trademark of General Motors Corporation.

5—'Basic Maintenance'—CHECKING ENGINE COOLANT LEVEL

The level of coolant should be checked at least weekly. This is simply a matter of looking at the level in the plastic container, called the coolant reservoir. Refer to the diagram on page 77 for location.

When the engine is cold the coolant level should be at or above the MINIMUM mark on the container. After the car has been driven and the engine is at normal operating temperature the level should be somewhere between half full and MAXIMUM mark on the container.



The long life coolant in your car conforms to GM-H specification number HN1897. This can be purchased as part number M39288 (1 litre) or M39338 (4 litres). If the recovery reservoir requires topping up, first premix a solution in a concentration of 1/3 M39288/M39388 to 2/3 water by volume. Flip up the cap on top of the reservoir, add the premixed solution and secure the cap.

Failure to use the specific GM-H coolant or maintain the specified concentration may result in voiding your warranty.

In emergency situations, plain water may be used temporarily in the cooling system until the correct GM-H long life coolant is obtained as soon as possible from the nearest GM-H dealer.

It should be noted that the above (glycol based) long life coolant contains special corrosion inhibitors for the best corrosion protection of your engine and cooling system. This long life coolant also gives your cooling system greater hot weather protection by increasing the boiling point and in addition provides protection in cold weather conditions down to −16°C, provided the correct concentration is maintained.

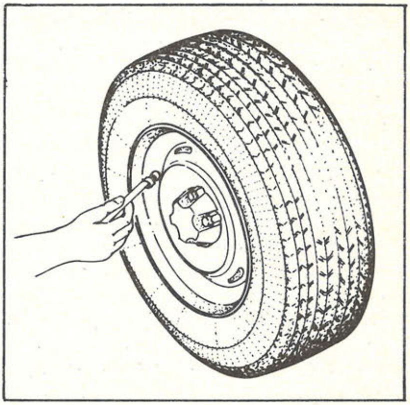
If you regularly have to top up the recovery reservoir you should see your GM-H dealer for a cooling system check.

CAUTION
CORROSION INHIBITORS AND ANTI-FREEZE FLUIDS ARE POISONOUS. USE EXTREME CARE WHEN HANDLING. IF SWALLOWED SEEK MEDICAL ATTENTION.

Refer to page 54 if engine overheats.

Refer to page 137 for aditional information, about the cooling system.

5—'Basic Maintenance'—CHECKING TYRE AIR PRESSURE



Checking the air pressure of your tyres (including the spare) ensures your SAFETY, as well as reducing fuel consumption and increasing the life of your tyres.

Make sure your car will handle at it's best—CHECK THE PRESSURES WEEKLY. For constant long distance or rough road travelling, daily checking is recommended.

Refer to the tyre placard inside the glove box for the correct pressure for your tyres.

Tyre inflation pressure increases when the tyres have been driven more than 2 km. The pressure should be checked when the TYRES ARE COLD (stationary for over 3 hours). If they must be checked when warm/hot, allow pressure to read 10% above that recommended.

Always use a TYRE PRESSURE GAUGE to check the tyres—simply looking at the tyres is not sufficient.

Remember to put back any valve DUST CAPS or EXTENTIONS if so equipped. This stops dirt and moisture from fouling the valves.

When checking the tyre air pressure, take a look at the condition of the TYRE TREAD, for stones or abnormal wear.

*To maximise the protection of tyres on vehicles operating for prolonged times over rough roads (particularly in outback conditions) it is recommended that the cold tyre inflation pressure recommended for maximum load condition as shown on the tyre placard is used.

For further information on tyres, refer page 144
For changing a flat tyre, refer page 57

5—'Basic Maintenance'— FLUID LEVELS OF POWER STEERING & WASHERS

WINDSCREEN WASHER FLUID

The washer fluid is constantly used, so the level should be checked weekly and topped up as required.

Refer to page 77 for location of the washer's plastic container.

Maintain the fluid at the level indicated on the outside of the container.

For a crystal clear windscreen, the correct amount of Optikleen Washer Solvent (part no. M37933) can be added. Do not use ordinary soap or detergent as these not only froth up but will also damage the wiper rubbers.

Make sure the cap is secured.

TAILGATE WASHER FLUID (wagon only)

To locate the container, open the tailgate and roll the carpet forward. Shift the retaining lever (of the cover now exposed) to the left and pull the cover up. The washer container will now be visible, next to the spare wheel. Check and add, as above.

POWER STEERING (If Fitted) FLUID LEVEL

The level should be checked after the vehicle has been driven for a while, so that the fluid is warm. A convenient time to do this is when stopping for petrol.

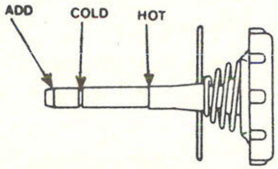
6 CYLINDER ENGINES

The 'see-through' container is located next to the battery. The fluid level should be between the minimum and maximum indicators on the outside of the container.

8 CYLINDER ENGINES

Refer page 77 for location of container. Unscrew and carefully remove the cap on top of the container. The dipstick, attached to the cap, has 3 level markings—add, cold and hot.

- If the fluid is warmed up the level should be between the HOT and COLD marks.
- If the fluid is cold the level should be between the ADD and COLD marks.
- If the fluid is below the ADD mark (hot or cold), fluid should be added to the appropriate level.



FLUID TYPE

If fluid needs to be added, use Dexron 11* Automatic Transmission Fluid. Do not fill over the maximum level and remember to replace the cap tightly. If you often need to add fluid, you should see your GM-H dealer to have the power steering system checked.

*Dexron 11 is a registered trademark of General Motors Corporation Ltd.

5—'Basic Maintenance'—BATTERY FLUID LEVEL

Care of your battery is very simple by extremely important. The battery installed will either be the type that requires topping up, or will be of the maintenance-free type. The maintenance-free battery is completely sealed except for very small vent holes in its top. It has no filler caps and NEVER needs to be topped up.

However, if the battery installed has removable vent caps, then the fluid level of the battery must be regularly checked. If the car is operated in hot temperatures or at constant, high speed the battery fluid level should be checked at least twice between the 6 month dealer service, when the fluid level will be checked for you.

CAUTION:
Batteries emit an explosive gas mixture which may be ignited by sparks or naked flames. You should therefore keep sparks and flames away from the battery at all times and never smoke near a battery.

Batteries contain sulphuric acid. If acid contacts skin or clothing, flush immediately with lots of water. In case of eye contact, flush with lots of water and contact a doctor immediately.

Take care with all metal objects and tools including items you may wear (e.g. jewellery, rings and metal watchbands) near battery terminals. Metal objects that touch battery terminals can cause sparks and serious heat burns to the user or wearer.

When checking the battery level, make sure the engine is not running. Pry off the removable caps with your fingers—there will be 6 filler holes revealed with tubes leading down.

Each cell must be individually checked. Use distilled water, as required to keep the level of the battery fluid between the bottom of the vent tube and 5 mm below it. **Do not overfill.** Replace the caps securely.

Refer to page 52 for emergency starting when battery is flat.

FLUID LEVELS OF BRAKES & CLUTCH

CLUTCH FLUID LEVEL (where fitted)

The fluid level is checked at the alluminium alloy reservoir, located near the brake master cylinder. Refer page 77 for exact location.

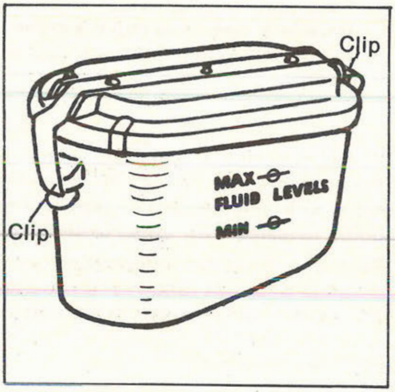
Unscrew the cap and compare the level of the fluid to the marker on the outside of the container.

The same fluid is used for both the brake system and the clutch system, so if fluid needs to be added, use heavy duty brake fluid which meets GM specification no. HN1796.

This can be purchased as GM-H part no. 92026651.

If you often need to add fluid, see your GM-H dealer to have the clutch system checked. Remember to securely screw the cap back on.

BRAKE FLUID LEVEL CHECK



The fluid level in the master cylinder should be checked regularly in conjunction with checking the oil and coolant levels. The fluid level, visible through the 'see through' reservoir should be maintained between the MIN and MAX level markings. If the fluid is between these levels do not remove the master cylinder cap. Remember that brake fluid exposed to the atmosphere will quickly absorb moisture which in turn lowers the performance of the fluid as well as increasing risk of corrosion of brake components.

If fluid needs to be added, unclip and lift off the top cover. Top up with heavy duty brake fluid which meets GM specification no. HN1796 this can be purchased as GM-H part no. 92026611. Remember to secure the cap at the sides.

If the master cylinder requires constant topping up it could indicate that a malfunction exists in which case it should immediately be brought to the attention of your GMH dealer.

5—'Basic Maintenance'—MISCELLANEOUS CHECKS

When carrying out the checks already described inspect the engine for oil leaks. If leaks are evident you should consult your GM-H Dealer.

The following checks should be regularly done to ensure proper safety and dependibility of your car.

CHECK:

—that all exterior lights are working and that their appropriate interior indicators light up when in operation.

—Mirrors and glass are clean and not scratched.

—automatic transmission t-bar—make sure that the indicator correctly lines up next to the gear selected.

—the aim of water on screen and condition of wipers.

—demister operates.

—horn works.

—all seat belt condition and operation (give it a sharp tug to make sure that it will 'lock' if necessary) and check that buckles are clean and operating correctly. Remember that seat belts must never be worn twisted.

SECTION 6

MAINTENANCE SCHEDULE

page 88 —When to have the Services Carried Out

page 89 —Extreme operating conditions

page 90 —Maintenance Schedule

—What is Actually Performed at Each Service

page 92 —Suggested Times for Each Service

page 93 —1,500 Km or 1 month Inspection and Adjustment

page 95 —5,000 Km or 3 Months Service

page 97 —'Turbo' Models — Intermediate Oil Changes

page 99 —15,000 Km or 9 Months Service

page 101 —25,000 Km or 15 Months Service

page 103 —35,000 Km or 21 Months Service

page 105 —45,000 Km or 27 Months Service

page 107 —55,000 Km or 33 Months Service

page 109 —65,000 Km or 39 Months Service

page 111 —75,000 Km or 45 Months Service

page 113 —85,000 Km or 51 Months Service

page 115 —95,000 Km or 57 Months Service

page 117 —105,000 Km or 63 Months Service

page 119 —115,000 Km or 69 Months Service

page 121 —125,000 Km or 75 Months Service

page 123 —Notice of Name/Address Ownership Change

6—'Maintenance Schedule'—SERVICE INTERVALS

When it comes to service, remember that your GMH Dealer has the trained personnel and specialised equipment to correctly service your vehicle. Your dealer invites you to return for all of your service needs both during and after the warranty period.

The safety, economy, emission control, performance and reliability of your Commodore or Calais cannot be assured unless regular maintenance is performed, preferably by factory-trained technicians.

Therefore, it is in the owner's interest that the following services are performed at the specified Distance or Months (whichever occurs first).

- 1,500 km— 1 Month
- 5,000 km— 3 Months
- 15,000 km— 9 Months
- 25,000 km— 15 Months
- 35,000 km— 21 Months
- 45,000 km— 27 Months
- 55,000 km— 33 Months
- 65,000 km— 39 Months
- 75,000 km— 45 Months
- 85,000 km— 51 Months
- 95,000 km— 57 Months
- 105,000 km— 63 Months
- 115,000 km— 69 Months
- 125,000 km— 75 Months

The one month—1,500 kilometres service will be performed without cost for labour by the Selling Dealer.

This service may be carried out by another GMH Dealer provided you have a letter of Introduction from the Selling Dealer. Your Dealer will supply the necessary letter of Introduction upon request.

NOTE: Models equipped with a turbocharger system MUST have the engine oil changed every 5,000 kms. Refer page 97.

The services shown in this schedule between 1,500 km and 125,000 km are to be performed after 125,000 km at the same intervals.

NOTE: All maintenance services as listed in this handbook and replacement of service items are the responsibility of the owner and as such are NOT considered, under the provisions of the new vehicle warranty to be rectification of defects in material and workmanship. Items such as wheel alignment, necessary adjustments to drive belts, transmission, clutch, parking brake etc. or any other items which may require servicing due to fair wear and tear will be carried out at the owner's cost.

Failure to have proper maintenance services carried out by an Authorised GMH Dealer or service Dealer may void your new vehicle warranty.

It is strongly recommended that you read the "New Vehicle Warranty" on page 61, so that you are conversant with your entitlements.

As each service is performed and the coupon removed, the following service coupon is readily visible to remind you when the next service is due.

After the service is completed, the owner should see that the Validation Record is stamped and signed by the Dealer. This is important as it will not only assist in the determination of Warranty Claims, but enhance the value of the vehicle whenever resale is contemplated.

6—'Maintenance Schedule'—EXTREME OPERATING CONDITIONS

If your vehicle operates under any of the extreme conditions listed in the following table it is recommended that some items be serviced more frequently than the intervals specified in the Maintenance Plan.

NOTE: The extra services listed below should only be used if your vehicle operates continuously under the conditions specified.

If you operate under any of these conditions on a one off basis e.g. holiday trip, then an extra service should be for that period only.

As a guide, if you operate continually for a period of one month or 1,500 kilometres under any of the extreme conditions, then this could qualify for additional services.

If at any time it is considered that the above items or other items should be more frequently serviced due to the type of operation or before a long trip, discuss the situation with the service manager of your GMH Dealer.

	ENGINE OIL—Change @ 5000 km	OIL FILTER—Replace @ 5000 km	AIR CLEANER ELEMENT Replace @ 20,000 km	AUTO. TRANS. FLUID (if fitted) Change @ 20,000 km	FRONT SUSPENSION & STEERING @ 5000 km Inspect for damage, wear & leaks.	Rear DRUM BRAKES (if fitted) @ 10,000 km Remove drums, clean & inspect	Rear DISC-PARKING BRAKE @ 20,000 km Inspect and clean linings	Change Manual Trans Gear Oil (if fitted) @ 40,000 Km
Dust, dirt, loose road material	×	×	×		×	×	×	
Muddy and wet areas					×	×	×	
Cold weather (below 5°C) and when most trips are less than 5 km	×							
Stop-start, excessive idling or low speed operation as experienced in inner city driving. e.g. taxi, door to door delivery	×			×		×		
Caravan or trailer towing	×			×		×		×
Extended heavy load high speed operation in temperatures above 35°C	×							

NOTE: The engine oil change interval for Turbo equipped models is 5,000 km, regardless of operating conditions, refer page 97.

6—'Maintenance Schedule'—SERVICE OPERATIONS

(use odometer reading or months whichever occurs first) × 1000 km	1.5	5	15	25	35	45	55	65	75	85	95	105	115	125
or months	1	3	9	15	21	27	33	39	45	51	57	63	69	75
UNDERHOOD OPERATIONS														
Change engine oil, check level*		×	×	×	×	×	×	×	×	×	×	×	×	×
Change oil filter		×	×	×	×	×	×	×	×	×	×	×	×	×
Check all fluid levels vis: brake, coolant, auto trans, power steering, L6 clutch. Top up as required.	×		×	×	×	×	×	×	×	×	×	×	×	×
Check open circuit voltage, electrolyte & fluid level (where applicable) of battery.	×	×	×	×	×	×	×	×	×	×	×	×	×	×
Check condition and tension of all engine drive belts using gauge. Adjust if necessary.	×		×		×		×		×		×		×	
Check condition, attachment and routing of all hoses and pipes in engine compartment, inc brake, fuel, coolant, air conditioning, emission control system and L6 clutch.	×		×	×	×	×	×	×	×	×	×	×	×	×
Check condition and attachment of all air ducts between air cleaner and inlet manifold (L6).	×		×	×	×	×	×	×	×	×	×	×	×	×
Drain, flush and refill cooling system with pre-mixed coolant comprising water and recommended inhibitor Inspect hoses and clamps. Clean outside of the radiator and A/C condenser.					×				×				×	
Pressure test cooling system and radiator cap.	×	×	×	×	×	×	×	×	×	×	×	×	×	×
Air conditioning—check refrigerant charge at sight glass.	×		×		×		×		×		×		×	
Check exhaust gas sensor operation. (3.0 ltr)					×				×				×	
Check operation of FICD solenoid valve. (L6 with A/C)	×		×		×		×		×		×		×	
Check operation on air regulator. (L6)	×		×		×		×		×		×		×	
Check vacuum fitting hoses and connections.	×		×		×		×		×		×		×	
Check PCV valve for correct operation.	×				×				×				×	
Replace engine air cleaner element					×				×				×	
Check camshaft drive belt (L6).											×			
Check & clean spark plugs (L6)			×				×				×			
Replace spark plugs (L6)					×				×				×	
Replace spark plugs (V8)			×		×		×		×		×		×	
Check ignition timing, engine idle speed, cap rotor, resistance of plug leads and V8 choke fast idle.	×		×		×		×		×		×		×	
Check carbon canister for leaks or restrictions.	×					×				×				×
Check operation of EFE system (V8)	×		×		×		×		×		×		×	
Check air preheat control damper assembly for correct cold and hot operation. Check attachment and condition of air preheat hose between manifold stove and air cleaner (V8)	×		×		×		×		×		×		×	
Clean and check EGR valve and manifold opening (V8)			×		×		×		×		×		×	
Check operation of automatic choke (V8)	×		×		×		×		×		×		×	
Replace PCV filter in air cleaner (V8)					×				×				×	
Clean or replace carburettor fuel filter (V8)			×		×		×		×		×		×	

*Turbo equipped models must have an additional oil change, between the listed 10,000 km intervals, refer page 97.

× 1000 km	1.5	5	15	25	35	45	55	65	75	85	95	105	115	125
or months	1	3	9	15	21	27	33	39	45	51	57	63	69	75
UNDER VEHICLE OPERATIONS														
Replace fuel filter					×				×				×	
Manual transmission. Check oil level	×		×		×		×		×		×		×	
Manual transmission. Check for leaks	×		×	×	×	×	×	×	×	×	×	×	×	×
Rear axle. Check oil level	×		×		×		×		×		×		×	
Rear axle. Check for leaks	×		×	×	×	×	×	×	×	×	×	×	×	×
Auto transmission service. Drain and refill with fluid. Adjust bands and replace filter					×				×				×	
Inspect CV joint for grease loss or damage.			×	×	×	×	×	×	×	×	×	×	×	×
Lubricate transmission shift and clutch linkages.				×		×		×		×		×		×
Steering and suspension inspection: Inspect front and rear suspension and steering system for damaged, loose or missing parts, signs of wear or lack of lubrication. Inspect power steering lines and hoses for condition, attachment and routing, leaks etc. Check condition of all rubber boots and covers.	×		×	×	×	×	×	×	×	×	×	×	×	×
Inspect exhaust system and underbody near the exhaust system. Look for damaged missing or out-of-position parts as well as open seams, holes, loose connections or other conditions which could cause a heat build up in the floor pan or could let exhaust fumes seep into the passenger compartment	×		×	×	×	×	×	×	×	×	×	×	×	×
Check all brake, clutch and fuel lines, hoses and connections for condition, attachment and routing	×		×	×	×	×	×	×	×	×	×	×	×	×
Front Wheel bearings Repack and adjust				×				×				×		
Inspect disc brake pads for wear and discs for surface condition. Front			×	×	×	×	×	×	×	×	×	×	×	×
Inspect disc brake pads for wear and discs for suface condition. Rear			×	×	×	×	×	×	×	×	×	×	×	×
Remove rear drums, check linings for wear, inspect drums and wheel cylinders. Check operation of self adjusters. Clean components as necessary.				×	×	×	×	×	×	×	×	×	×	×
Parking brake inspection—rear disc brakes. Check linings and drum for wear.					×				×				×	
Hydraulic brake system—drain and refill with specified fluid. Bleed system. Check brake performance					×				×				×	
Inspect tyres for irregular wear or damage. Also check for damaged wheels and advise owner of any corrective maintenance required. Check inflation pressures and torque wheel nuts.	×	×	×	×	×	×	×	×	×	×	×	×	×	×
Hydraulic clutch system-drain and refill with specified fluid. Bleed system. Check clutch performance.					×				×				×	

6—'Maintenance Schedule'—OPERATIONS cont. & SUGGESTED LABOUR TIME

× 1000 km	1.5	5	15	25	35	45	55	65	75	85	95	105	115	125
or months	**1**	**3**	**9**	**15**	**21**	**27**	**33**	**39**	**45**	**51**	**57**	**63**	**69**	**75**
INTERIOR VEHICLE OPERATIONS														
Check park brake operation. Adjust if necessary			×	×	×	×	×	×	×	×	×	×	×	×
Seat belt inspection. Examining webbing condition, buckle operation and retractor mechanism operation. Report any deficiencies.			×		×		×		×		×		×	
EXTERIOR VEHICLE OPERATIONS														
Lubricate exterior door handle pivots, door and rear compartment strikers and hold open devices. Check and lubricate door lock and catch.			×		×		×		×		×		×	
Check transmitter performance of Calais Anti-Theft System.		×	×	×	×	×	×	×	×	×	×	×	×	×
ROAD TEST														
Check vehicle on road for braking performance, steering operation, engine response and transmission operation. Check operation of cruise control. Check park pawl operation (auto). Check neutral start switch (auto). Correct and report any abnormal conditions.	×	×	×	×	×	×	×	×	×	×	×	×	×	×

Suggested Labour Time—Hours	—	0.5	1.6	1.4	2.8	1.1	1.6	1.4	2.8	1.1	2.0	1.4	2.8	1.1
Extra Labour Time for:														
Automatic Transmission	—	-	-	-	.3	-	-	-	.3	-	-	-	.3	-
Rear Disc Brake	—	-	-	-	.1	-	-	-	.1	-	-	-	.1	-
V8 Engine	—	-	.2	-	.1	-	.2	-	.1	-	-	-	.1	-
Subtract Labour Time for:														
V8 Engine	—	-	-	-	-	-	-	-	-	-	.4	-	-	-

The owner will be charged for all lubrications and materials used plus labour at the times recommended above.

The service times above are for service to a basic vehicle.

Additional times and material required for servicing optional equipment fitted to a basic vehicle must be added to the suggested labour time and charges.

The repairing or replacing of any part found faulty during a service check and not covered by GMH Warranty will be added to the charges.

Where any deficiencies are noted, such items should be reported to the owner/operator so that the extra work required can be authorised.

1500 Kilometre or 1 Month Inspection and Adjustment

GMH QUALITY SERVICE & PARTS

This coupon should not be removed until the vehicle is presented for service.

Owner's Name Mr. Mrs Miss ....

Address ....

Town & State .... Postcode ....

Reg. No. .... Model Name ....

V.I.N. .... Eng. No. ....

Selling Dealer's Stamp & Signature ....

Date of Acquisition ....

This vehicle has been thoroughly checked in accordance with the schedule on the reverse side of this coupon.

Servicing Dealer ....

Town .... State ....

Owner's Signature ....

This Inspection & Adjustment will be carried out without charge to the owner except for any lubricants used.

The Designated Services are not to be exceeded without the Owner's prior agreement to additional servicing charges.

1500 Kilometre 1 Month Inspection and Adjustment

This vehicle has been thoroughly checked in accordance with the 1 month —**1,500** kilometre inspection and adjustment.

Dealer ....

Service Manager's Signature ....

Date .... Odometer Reading ....

UNDERHOOD OPERATIONS

	Check oil level
	Check all fluid levels vis: brake, coolant, battery, auto trans, power steering, (L6) clutch. Top up as required.
	Check coolant level, check for presence of inhibitor top up radiator and recovery reservoir as required
	Check condition, attachment and routing of all hoses and pipes in engine compartment, inc. brake, fuel, coolant, air conditioning, emission control system and (L6) clutch.
	Check condition and tension of all engine drive belts using gauge. Adjust if necessary.
	Check condition and attachment of all air ducts between air cleaner and inlet manifold. (L6)
	Pressure test cooling system and radiator cap.
	Air conditioning—Check refrigerant charge at sight glass.
	Check operation of FICD solenoid valve. (L6 with A/C).
	Check operation on air regulator. (L6)
	Check vacuum fitting hoses and connections.
	Check PCV valve for correct operation.
	Check ignition timing, engine idle speed, cap, rotor, resistance of plug leads and V8 choke fast idle.
	Check carbon canister filter for leaks or restrictions.
	Check open circuit voltage, electrolyte and fluid level (where applicable) of battery
	Check operation of automatic choke (V8)
	Check air preheat control damper assembly for correct cold and hot operation. Check attachment and condition of air preheat hose between manifold stove and air cleaner (V8)
	Check operation of EFE system (V8)

UNDER VEHICLE OPERATIONS

	Manual transmission. Check oil level
	Manual transmission. Check for leaks
	Rear axle. Check oil level
	Rear axle. Check for leaks
	Steering and suspension inspection: Inspect front and rear suspension and steering system for damaged, loose or missing parts, signs of wear or lack of lubrication. Inspect power steering lines and hoses for condition, attachment, routing, leaks etc. check condition of all rubber boots and covers.
	Inspect exhaust system and underbody near the exhaust system. Look for damaged, missing or out-of-position parts as well as open seams, holes, loose connections or other conditions which could cause a heat build up in the floor pan or could let exhaust fumes seep into the passenger compartment.
	Check all brake, clutch and fuel lines, hoses and connections for condition, attachment and routing.
	Inspect tyres for irregular wear or damage. Also check for damaged wheels and advise owner of any corrective maintenance required. Check inflation pressures and torque wheel nuts.
	Check torque of rear suspension links attaching bolts

INTERIOR VEHICLE OPERATIONS

	Check operation of all lights (interior and exterior)
	Check operation of all instruments and controls including ignition steering lock, indicator and warning lights, horn, wiper/washer turn signals, hood lock and catch. Check operation of door, rear compartment and window mechanisms.
	Check that heating, ventilation, demisting and air conditions system operates correctly. Check that blower operates on each speed setting.

EXTERIOR VEHICLE OPERATIONS

	Check headlamp aim and adjust if necessary

ROAD TEST

	Check vehicle on road for braking performance, steering operation, engine response and transmission operation. • Check operation of cruise control • Check park pawl operation (auto) • Check neutral start switch (auto) • Correct and report any abnormal conditions.

5,000 km or 3 Months Service Coupon

GMH QUALITY SERVICE & PARTS

I authorise performance of the services specified on this coupon. I understand that I will be charged for this work which will take approx. 0.5 hr. There will also be a charge for all lubricants and filters, parts used as a result of checks and additional services performed as requested.

Additional Services Requested:

....

....

....

....

Signature .... Date ....

UNDERHOOD OPERATIONS

☐	Change engine oil, check level.
☐	Change oil filter.
☐	Pressure test cooling system and radiator cap.
☐	Check open circuit voltage, electrolyte & fluid level (where applicable) of battery)

UNDER VEHICLE OPERATIONS

☐	Inspect tyres for irregular wear or damage. Also check for damaged wheels and advise owner of any corrective maintenance required. Check inflation pressures and torque wheel nuts.

EXTERIOR VEHICLE OPERATIONS

☐	Check transmitter performance of Calais Anti-theft system.

ROAD TEST

☐	Check vehicle on road for braking performance, • steering operation, engine response and transmission operation. • Check operation of cruise control • Check park pawl operation (auto) • Check neutral start switch (auto) • Correct and report any abnormal conditions.

5,000 km or 3 Month SERVICE VALIDATION

Servicing Dealer ....

Date of Service ....

Odometer ....

Signed ....

Additional Services Performed: ....

....

....

RECORD OF INTERMEDIATE OIL CHANGES
‘TURBO’ MODELS ONLY

10,000 km or 6 months Oil Change	Date .... Odometer .... Servicing Dealer	80,000 km or 48 months Oil Change	Date .... Odometer .... Servicing Dealer ....
20,000 km or 12 months Oil Change	Date .... Odometer .... Servicing Dealer	90,000 km or 52 months Oil Change	Date .... Odometer .... Servicing Dealer ....
30,000 km or 18 months Oil Change	Date .... Odometer .... Servicing Dealer	100,000 km or 60 months Oil Change	Date .... Odometer .... Servicing Dealer ....
40,000 km or 24 months Oil Change	Date .... Odometer .... Servicing Dealer	110,000 km or 66 months Oil Change	Date .... Odometer .... Servicing Dealer ....
50,000 km or 30 months Oil Change	Date .... Odometer .... Servicing Dealer	120,000 km or 72 months Oil Change	Date .... Odometer .... Servicing Dealer ....
60,000 km or 36 months Oil Change	Date .... Odometer .... Servicing Dealer	130,000 km or 78 months Oil Change	Date .... Odometer .... Servicing Dealer ....
70,000 km or 42 months Oil Change	Date .... Odometer .... Servicing Dealer		

15,000 km or 9 Months Service Coupon

I authorise performance of the services specified on this coupon. I understand that I will be charged for this work which will take approx. 1.6 hrs. [Add 0.2 hr for V8 Engine]

There will also be a charge for all lubricants and filters, parts used as a result of checks and additional services performed as requested.

Additional Services Requested:

....

....

....

....

Signature .... Date ....

UNDER HOOD OPERATIONS

☐	Change engine oil, check level.
☐	Change oil filter.
☐	Check all fluid levels vis: brake, coolant, auto trans, power steering, (L6) clutch. Top up as required.
☐	Check open circuit voltage, electrolyte & fluid level (where applicable) of battery.
☐	Check condition and tension of all engine drive belts using gauge. Adjust if necessary.
☐	Check condition, attachment and routing of all hoses and pipes in engine compartment, inc. brake, fuel, coolant, air conditioning, emission control system and L6 clutch.
☐	Check condition and attachment of all air ducts betweeen air cleaner and inlet manifold. (L6)
☐	Pressure test cooling system and radiator cap.
☐	Air conditioning—check refrigerant charge at sight glass.
☐	Check operation of FICD solenoid valve. (L6 with A/C)
☐	Check operation on air regulator. (L6)
☐	Check vacuum fitting hoses and connections.
☐	Check and clean spark plugs. (L6 only)
☐	Replace spark plugs (V8 only)
☐	Check ignition timing, engine idle speed, cap, rotor, resistance of plug leads and V8 choke fast idle.
☐	Check operation of EFE system (V8)
☐	Check air preheat control damper assembly for correct cold and hot operation. Check attachment and condition of air preheat hose between manifold stove and air cleaner (V8)
☐	Clean and check EGR valve and manifold opening (V8)
☐	Check operation of automatic choke (V8)
☐	Clean or replace carburettor fuel fitter (V8)

15,000 km or 9 Month SERVICE VALIDATION

Servicing Dealer ....

Date of Service ....

Odometer ....

Signed ....

Additional Services Performed:

....

....

....

UNDER VEHICLE OPERATIONS

☐	Manual transmission. Check oil level
☐	Manual transmission. Check for leaks
☐	Rear axle. Check oil level
☐	Rear axle. Check for leaks
☐	Inspect CV joint for grease loss or damage.
☐	Steering and suspension inspection: Inspect front and rear suspension and steering system for damaged, loose or missing parts, signs of wear or lack of lubrication. Inspect power steering lines and hoses for condition, attachment and routing. Leaks etc. check condition of all rubber boots and covers.
☐	Inspect exhaust system and underbody near the exhaust system. Look for damaged, missing or out-of-position parts as well as open seams, holes, loose connections or other conditions which could cause a heat build up in the floor pan or could let exhaust fumes seep into the passenger compartment.
☐	Check all brake, clutch and fuel lines, hoses and connections for condition, attachment and routing.
☐	Inspect disc brake pads for wear and discs for surface condition. Front
☐	Inspect disc brake pads for wear and discs for surface condition. Rear
☐	Inspect tyres for irregular wear or damage. Also check for damaged wheels and advise owner of any corrective maintenance required. Check inflation pressures and torque wheel nuts.

INTERIOR VEHICLE OPERATIONS

☐	Check park brake operation. Adjust if necessary.
☐	Seat belt inspection. Examine webbing condition, buckle operation and retractor mechanism operation. Report and deficiencies.

EXTERIOR VEHICLE OPERATIONS

☐	Lubricate exterior door handle pivots, door and rear compartment strikers and hold open devices. Check and lubricate door lock and catch.
☐	Check transmitter performance of Calais Anti-theft system.

ROAD TEST

☐	Check vehicle on road for braking performance, steering operation, engine response and transmission operation. • Check operation of cruise control • Check park pawl operation (auto) • Check neutral start switch (auto) • Correct and report any abnormal conditions.

25,000 km or 15 Months Service Coupon

GMH QUALITY SERVICE & PARTS

I authorise performance of the services specified on this coupon. I understand that I will be charged for this work which will take approx. 1.4 hrs.

There will also be a charge for all lubricants and filters, parts used as a result of checks and additional services performed as requested.

Additional Services Requested:

....

....

....

....

Signature .... Date ....

UNDER HOOD OPERATIONS

☐	Change engine oil, check level.
☐	Change oil filter.
☐	Check all fluid levels vis: brake, coolant, auto trans, power steering, L6 clutch. Top up as required.
☐	Check open circuit voltage, electrolyte & fluid level (where applicable) of battery.
☐	Check condition, attachment and routing of all hoses and pipes in engine compartment, inc. brake, fuel, coolant, air conditioning, emission control system and L6 clutch.
☐	Check condition and attachment of all air ducts betweeen air cleaner and inlet manifold.(L6)
☐	Pressure test cooling system and radiator cap.

25,000 km or 15 Month SERVICE VALIDATION

Servicing Dealer ....

Date of Service ....

Odometer ....

Signed ....

Additional Services Performed:

....

....

....

UNDER VEHICLE OPERATIONS

	Manual transmission. Check for leaks
	Rear axle. Check for leaks
	Inspect CV joint for grease loss or damage.
	Lubricate transmission shift and clutch linkages.
	Steering and suspension inspection: Inspect front and rear suspension and steering system for damaged, loose or missing parts, signs of wear or lack of lubrication. Inspect power steering lines and hoses for condition, attachment and routing. Leaks etc. check condition of all rubber boots and covers
	Inspect exhaust system and underbody near the exhaust system. Look for damaged, missing or out-of-position parts as well as open seams, holes, loose connections or other conditions which could cause a heat build up in the floor pan or could let exhaust fumes seep into the passenger compartment.
	Check all brake, clutch and fuel lines, hoses and connections for condition, attachment and routing.
	Front wheel bearings. Repack and adjust.
	Inspect disc brake pads for wear and discs for surface condition. Front
	Inspect disc brake pads for wear and discs for surface condition. Rear
	Remove rear drums, check linings for wear, inspect drums and wheel cylinders. Check operation of self adjusters. Clean components as necessary.
	Inspect tyres for irregular wear or damage. Also check for damaged wheels and advise owner of any corrective maintenance required. Check inflation pressures and torque wheel nuts.

INTERIOR VEHICLE OPERATIONS

	Check park brake operation. Adjust if necessary.

EXTERIOR VEHICLE OPERATIONS

	Check transmitter performance of Calais Anti-thef system.

ROAD TEST

	Check vehicle on road for braking performance, steering operation, engine response and transmission operation. • Check operation of cruise control • Check park pawl operation (auto) • Check neutral start switch (auto) • Correct and report any abnormal conditions.

35,000 km or 21 Months Service Coupon

GMH QUALITY SERVICE & PARTS

I authorise performance of the services specified on this coupon. I understand that I will be charged for this work which will take approx. 2.8 hrs.
[Add 0.3 hr for Automatic Transmission.
0.1 hr for Rear Disc Brakes.
0.1 hr for V8 Engine]

There will also be a charge for all lubricants and filters, parts used as a result of checks and additional services performed as requested.

Additional Services Requested:

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Signature .... Date ....

UNDER HOOD OPERATIONS

	Change engine oil, check level.
	Change oil filter.
	Check all fluid levels vis: brake, coolant, auto trans, power steering, L6 clutch. Top up as required.
	Check open circuit voltage, electrolyte & fluid level (where applicable) of battery.
	Check condition and tension of all engine drive belts using gauge. Adjust if necessary.
	Check condition, attachment and routing of all hoses and pipes in engine compartment, inc. brake, fuel, coolant, air conditioning, emission control system and L6 clutch.
	Check condition and attachment of all air ducts betweeen air cleaner and inlet manifold. (L6)
	Drain, flush and refill cooling system with pre-mixed coolant comprising water and recommended inhibitor. Inspect hoses and clamps. Clean outside of radiator and A/C condensor.
	Pressure test cooling system and radiator cap.
	Air conditioning—check refrigerant charge at sight glass.
	Check exhaust gas sensor operation. (3.0 Ltr)
	Check operation of FICD solenoid valve. (L6 with A/C)
	Check operation on air regulator. (L6)
	Check vacuum fitting hoses and connections.
	Check PCV valve for correct operation.
	Replace engine air cleaner element
	Replace spark plugs.
	Check ignition timing, engine idle speed, cap, rotor, resistance of plug leads and V8 choke fast idle.
	Check operation of EFE system (V8)
	Check air preheat control damper assembly for correct cold and hot operation. Check attachment and condition of air preheat hose between manifold stove and air cleaner (V8)
	Clean and check EGR valve and manifold opening (V8)
	Check operation of automatic choke (V8)
	Replace PCV filter in air cleaner (V8)
	Clean or replace carburettor fuel fitter (V8)

35,000 km or 21 Month SERVICE VALIDATION

Servicing Dealer ....

Date of Service ....

Odometer ....

Signed ....

Additional Services Performed:

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UNDER VEHICLE OPERATIONS

☐ Replace fuel filter. (L6)

☐ Manual transmission. Check oil level

☐ Manual transmission. Check for leaks

☐ Rear axle. Check oil level

☐ Rear axle. Check for leaks

☐ Auto transmission service. Drain and refill with fluid. Adjust bands and replace filter.

☐ Inspect CV joint for grease loss or damage.

☐ Steering and suspension inspection:
Inspect front and rear suspension and steering system for damaged, loose or missing parts, signs of wear or lack of lubrication. Inspect power steering lines and hoses for condition, attachment and routing. Leaks etc. check condition of all rubber boots and covers.

☐ Inspect exhaust system and underbody near the exhaust system. Look for damaged, missing or out-of-position parts as well as open seams, holes, loose connections or other conditions which could cause a heat build up in the floor pan or could let exhaust fumes seep into the passenger compartment.

☐ Check all brake, clutch and fuel lines, hoses and connections for condition, attachment and routing.

☐ Inspect disc brake pads for wear and discs for surface condition. Front

☐ Inspect disc brake pads for wear and disc for surface condition. Rear

☐ Remove rear drums, check linings for wear, inspect drums and wheel cylinders. Check operation of self adjusters. Clean components as necessary.

☐ Parking brake inspection—Rear disc brakes. Check linings and drum for wear.

☐ Hydraulic brake system—drain and refill with specified fluid. Bleed system. Check brake performance.

☐ Inspect tyres for irregular wear or damage. Also check for damaged wheels and advise owner of any corrective maintenance required. Check inflation pressures and torque wheel nuts.

☐ Hydraulic clutch system—drain and refill with specified fluid. Bleed system. Check clutch performance.

INTERIOR VEHICLE OPERATIONS

☐ Check park brake operation. Adjust if necessary.

☐ Seat belt inspection. Examine webbing condition, buckle operation and retractor mechanism operation. Report any deficiencies.

EXTERIOR VEHICLE OPERATIONS

☐ Lubricate exterior door handle pivots, door and rear compartment strikers and hold open devices. Check and lubricate door lock and catch.

☐ Check transmitter performance of Calais Anti-theft system.

ROAD TEST

☐ Check vehicle on road for braking performance,
steering operation, engine response and transmission operation.
- Check operation of cruise control
- Check park pawl operation (auto)
- Check neutral start switch (auto)
- Correct and report any abnormal conditions.

45,000 km or 27 Months Service Coupon

GMH QUALITY SERVICE & PARTS

I authorise performance of the services specified on this coupon. I understand that I will be charged for this work which will take approx. 1.1 hr.

There will also be a charge for all lubricants and filters, parts used as a result of checks and additional services performed as requested.

Additional Services Requested:

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Signature .... Date ....

UNDER HOOD OPERATIONS

☐	Change engine oil, check level.
☐	Change oil filter.
☐	Check all fluid levels vis: brake, coolant, auto trans, power steering, L6 clutch. Top up as required.
☐	Check open circuit voltage, electrolyte & fluid level (where applicable) of battery.
☐	Check condition, attachment and routing of all hoses and pipes in engine compartment, inc. brake, fuel, coolant, air conditioning, emission control system and L6 clutch.
☐	Check condition and attachment of all air ducts betweeen air cleaner and inlet manifold.(L6)
☐	Pressure test cooling system and radiator cap.
☐	Check carbon canister filter for leaks or restrictions.

45,000 km or 27 Month SERVICE VALIDATION

Servicing Dealer ....

Date of Service ....

Odometer ....

Signed ....

Additional Services Performed:

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UNDER VEHICLE OPERATIONS

☐ Manual transmission. Check for leaks

☐ Rear axle. Check for leaks

☐ Inspect CV joint for grease loss or damage.

☐ Lubricate transmission shift and clutch linkages.

☐ Steering and suspension inspection:
Inspect front and rear suspension and steering system for damaged, loose or missing parts, signs of wear or lack of lubrication. Inspect power steering lines and hoses for condition, attachment and routing. Leaks etc. check condition of all rubber boots and covers.

☐ Inspect exhaust system and underbody near the exhaust system. Look for damaged, missing or out-of-position parts as well as open seams, holes, loose connections or other conditions which could cause a heat build up in the floor pan or could let exhause fumes seep into the passenger compartment.

☐ Check all brake, clutch and fuel lines, hoses and connections for condition, attachment and routing.

☐ Inspect disc brake pads for wear and discs for surface condition. Front

☐ Inspect disc brake pads for wear and discs for surface condition. Rear

☐ Remove rear drums, check linings for wear, inspect drums and wheel cylinders. Check operation of self adjusters. Clean components as necessary.

☐ Inspect tyres for irregular wear or damage. Also check for damaged wheels and advise owner of any corrective maintenance required. Check inflation pressures and torque wheel nuts.

INTERIOR VEHICLE OPERATIONS

☐ Check park brake operation. Adjust if necessary.

EXTERIOR VEHICLE OPERATIONS

☐ Check transmitter performance of Calais Anti-theft system.

ROAD TEST

☐ Check vehicle on road for braking performance, steering operation, engine response and transmission operation.
- Check operation of cruise control
- Check park pawl operation (auto)
- Check neutral start switch (auto)
- Correct and report any abnormal conditions.

55,000 km or 33 Months Service Coupon

I authorise performance of the services specified on this coupon. I understand that I will be charged for this work which will take approx. 1.6 hrs. [Add 0.2 hr for V8 Engine]

There will also be a charge for all lubricants and filters, parts used as a result of checks and additional services performed as requested.

Additional Services Requested:

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Signature .... Date ....

UNDER HOOD OPERATIONS

☐	Change engine oil, check level.
☐	Change oil filter.
☐	Check all fluid levels vis: brake, coolant, auto trans, power steering, (L6) clutch. Top up as required.
☐	Check open circuit voltage, electrolyte & fluid level (where applicable) of battery.
☐	Check condition and tension of all engine drive belts using gauge. Adjust if necessary.
☐	Check condition, attachment and routing of all hoses and pipes in engine compartment, inc. brake, fuel, coolant, air conditioning, emission control system and L6 clutch.
☐	Check condition and attachment of all air ducts betweeen air cleaner and inlet manifold. (L6)
☐	Pressure test cooling system and radiator cap.
☐	Air conditioning—check refrigerant charge at sight glass.
☐	Check operation of FICD solenoid valve. (L6 with A/C)
☐	Check operation on air regulator. (L6)
☐	Check vacuum fitting hoses and connections.
☐	Check and clean spark plugs. (L6 only)
☐	Replace spark plugs (V8 only)
☐	Check ignition timing, engine idle speed, cap, rotor, resistance of plug leads and V8 choke fast idle.
☐	Check operation of EFE system (V8)
☐	Check air preheat control damper assembly for correct cold and hot operation. Check attachment and condition of air preheat hose between manifold stove and air cleaner (V8)
☐	Clean and check EGR valve and manifold opening (V8)
☐	Check operation of automatic choke (V8)
☐	Clean or replace carburettor fuel fitter (V8)

55,000 km or 33 Month SERVICE VALIDATION

Servicing Dealer ....

Date of Service ....

Odometer ....

Signed ....

Additional Services Performed:

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UNDER VEHICLE OPERATIONS

☐ Manual transmission. Check oil level

☐ Manual transmission. Check for leaks

☐ Rear axle. Check oil level

☐ Rear axle. Check for leaks

☐ Inspect CV joint for grease loss or damage.

☐ Steering and suspension inspection:
Inspect front and rear suspension and steering system for damaged, loose or missing parts, signs of wear or lack of lubrication. Inspect power steering lines and hoses for condition, attachment and routing. Leaks etc. check condition of all rubber boots and covers.

☐ Inspect exhaust system and underbody near the exhaust system. Look for damaged, missing or out-of-position parts as well as open seams, holes, loose connections or other conditions which could cause a heat build up in the floor pan or could let exhaust fumes seep into the passenger compartment.

☐ Check all brake, clutch and fuel lines, hoses and connections for condition, attachment and routing.

☐ Inspect disc brake pads for wear and discs for surface condition. Front

☐ Inspect disc brake pads for wear and discs for surface condition. Rear

☐ Remove rear drums, check linings for wear, inspect drums and wheel cylinders. Check operation of self adjusters. Clean components as necessary.

☐ Inspect tyres for irregular wear or damage. Also check for damaged wheels and advise owner of any corrective maintenance required. Check inflation pressures and torque wheel nuts.

INTERIOR VEHICLE OPERATIONS

☐ Check park brake operation. Adjust if necessary.

☐ Seat belt inspection. Examine webbing condition, buckle operation and retractor mechanism operation. Report any deficiencies.

EXTERIOR VEHICLE OPERATIONS

☐ Lubricate exterior door handle pivots, door and rear compartment strikers and hold open devices. Check and lubricate door lock and catch.

☐ Check transmitter performance of Calais Anti-theft system.

ROAD TEST

☐ Check vehicle on road for braking performance, steering operation, engine response and transmission operation.
- Check operation of cruise control
- Check park pawl operation (auto)
- Check neutral start switch (auto)
- Correct and report any abnormal conditions.

65,000 km or 39 Months Service Coupon

I authorise performance of the services specified on this coupon. I understand that I will be charged for this work which will take approx. 1.4 hrs.

There will also be a charge for all lubricants and filters, parts used as a result of checks and additional services performed as requested.

Additional Services Requested:

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Signature .... Date ....

UNDER HOOD OPERATIONS

☐	Change engine oil, check level.
☐	Change oil filter.
☐	Check all fluid levels vis: brake, coolant, auto trans, power steering, L6 clutch. Top up as required.
☐	Check open circuit voltage, electrolyte & fluid level (where applicable) of battery.
☐	Check condition, attachment and routing of all hoses and pipes in engine compartment, inc. brake, fuel, coolant, air conditioning, emission control system and L6 clutch.
☐	Check condition and attachment of all air ducts betweeen air cleaner and inlet manifold.(L6)
☐	Pressure test cooling system and radiator cap.

65,000 km
or 39 Month
SERVICE
VALIDATION

Servicing Dealer ....
Date of Service ....
Odometer ....
Signed ....

Additional Services Performed: ....

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UNDER VEHICLE OPERATIONS

☐ Manual transmission. Check for leaks

☐ Rear axle. Check for leaks

☐ Inspect CV joint for grease loss or damage.

☐ Lubricate transmission shift and clutch linkages.

☐ Steering and suspension inspection:
Inspect front and rear suspension and steering system for damaged, loose or missing parts, signs of wear or lack of lubrication. Inspect power steering lines and hoses for condition, attachment and routing. Leaks etc. check condition of all rubber boots and covers.

☐ Inspect exhaust system and underbody near the exhaust system. Look for damaged, missing or out-of-position parts as well as open seams, holes, loose connections or other conditions which could cause a heat build up in the floor pan or could let exhause fumes seep into the passenger compartment.

☐ Check all brake, clutch and fuel lines, hoses and connections for condition, attachment and routing.

☐ Front wheel bearings. Repack and adjust.

☐ Inspect disc brake pads for wear and discs for surface condition. Front

☐ Inspect disc brake pads for wear and discs for surface condition. Rear

☐ Remove rear drums, check linings for wear, inspect drums and wheel cylinders. Check operation of self adjusters. Clean components as necessary.

☐ Inspect tyres for irregular wear or damage. Also check for damaged wheels and advise owner of any corrective maintenance required. Check inflation pressures and torque wheel nuts.

INTERIOR VEHICLE OPERATIONS

☐ Check park brake operation. Adjust if necessary.

EXTERIOR VEHICLE OPERATIONS

☐ Check transmitter performance of Calais Anti-theft system.

ROAD TEST

☐ Check vehicle on road for braking performance, steering operation, engine response and transmission operation.
- Check operation of cruise control
- Check park pawl operation (auto)
- Check neutral start switch (auto)
- Correct and report any abnormal conditions.

75,000 km or 45 Months Service Coupon

GMH QUALITY SERVICE & PARTS

I authorise performance of the services specified on this coupon. I understand that I will be charged for this work which will take approx. 2.8 hrs.
[Add 0.3 hr for Automatic Transmission.
0.1 hr for Rear Disc Brakes.
0.1 hr for V8 Engine]

There will also be a charge for all lubricants and filters, parts used as a result of checks and additional services performed as requested.

Additional Services Requested:

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Signature .... Date ....

UNDER HOOD OPERATIONS

☐	Change engine oil, check level.
☐	Change oil filter.
☐	Check all fluid levels vis: brake, coolant, auto trans, power steering, L6 clutch. Top up as required.
☐	Check open circuit voltage, electrolyte & fluid level (where applicable) of battery.
☐	Check condition and tension of all engine drive belts using gauge. Adjust if necessary.
☐	Check condition, attachment and routing of all hoses and pipes in engine compartment, inc. brake, fuel, coolant, air conditioning, emission control system and L6 clutch.
☐	Check condition and attachment of all air ducts between air cleaner and inlet manifold. (L6)
☐	Drain, flush and refill cooling system with pre-mixed coolant comprising water and recommended inhibitor. Inspect hoses and clamps. Clean outside of radiator and A/C condensor.
☐	Pressure test cooling system and radiator cap.
☐	Air conditioning—check refrigerant charge at sight glass.
☐	Check exhaust gas sensor operation. (3.0 Ltr)
☐	Check operation of FICD solenoid valve. (L6 with A/C)
☐	Check operation on air regulator. (L6)
☐	Check vacuum fitting hoses and connections.
☐	Check PCV valve for correct operation.
☐	Replace engine air cleaner element
☐	Replace spark plugs.
☐	Check ignition timing, engine idle speed, cap, rotor, resistance of plug leads and V8 choke fast idle.
☐	Check operation of EFE system (V8)
☐	Check air preheat control damper assembly for correct cold and hot operation. Check attachment and condition of air preheat hose between manifold stove and air cleaner (V8)
☐	Clean and check EGR valve and manifold opening (V8)
☐	Check operation of automatic choke (V8)
☐	Replace PCV filter in air cleaner (V8)
☐	Clean or replace carburettor fuel fitter (V8)

Additional Services Performed:

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75,000 km or 45 Month SERVICE VALIDATION

Servicing Dealer ....

Date of Service ....

Odometer ....

Signed ....

UNDER VEHICLE OPERATIONS

	Replace fuel filter. (L6)
	Manual transmission. Check oil level
	Manual transmission. Check for leaks
	Rear axle. Check oil level
	Rear axle. Check for leaks
	Auto transmission service. Drain and refill with fluid. Adjust bands and replace filter.
	Inspect CV joint for grease loss or damage.
	Steering and suspension inspection: Inspect front and rear suspension and steering system for damaged, loose or missing parts, signs of wear or lack of lubrication. Inspect power steering lines and hoses for condition, attachment and routing. Leaks etc. check condition of all rubber boots and covers.
	Inspect exhaust system and underbody near the exhaust system. Look for damaged, missing or out-of-position parts as well as open seams, holes, loose connections or other conditions which could cause a heat build up in the floor pan or could let exhaust fumes seep into the passenger compartment.
	Check all brake, clutch and fuel lines, hoses and connections for condition, attachment and routing.
	Inspect disc brake pads for wear and discs for surface condition. Front
	Inspect disc brake pads for wear and disc for surface condition. Rear
	Remove rear drums, check linings for wear, inspect drums and wheel cylinders. Check operation of self adjusters. Clean components as necessary.
	Parking brake inspection—Rear disc brakes. Check linings and drum for wear.
	Hydraulic brake system—drain and refill with specified fluid. Bleed system. Check brake performance.
	Inspect tyres for irregular wear or damage. Also check for damaged wheels and advise owner of any corrective maintenance required. Check inflation pressures and torque wheel nuts.
	Hydraulic clutch system—drain and refill with specified fluid. Bleed system. Check clutch performance.

INTERIOR VEHICLE OPERATIONS

	Check park brake operation. Adjust if necessary.
	Seat belt inspection. Examine webbing condition, buckle operation and retractor mechanism operation. Report any deficiencies.

EXTERIOR VEHICLE OPERATIONS

	Lubricate exterior door handle pivots, door and rear compartment strikers and hold open devices. Check and lubricate door lock and catch.
	Check transmitter performance of Calais Anti-theft system.

ROAD TEST

	Check vehicle on road for braking performance, steering operation, engine response and transmission operation. • Check operation of cruise control • Check park pawl operation (auto) • Check neutral start switch (auto) • Correct and report any abnormal conditions.

85,000 km or 51 Months Service Coupon

GMH QUALITY SERVICE & PARTS

I authorise performance of the services specified on this coupon. I understand that I will be charged for this work which will take approx. 1.1 hrs.

There will also be a charge for all lubricants and filters, parts used as a result of checks and additional services performed as requested.

Additional Services Requested:

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Signature .... Date ....

UNDER HOOD OPERATIONS

☐	Change engine oil, check level.
☐	Change oil filter.
☐	Check all fluid levels vis: brake, coolant, auto trans, power steering, L6 clutch. Top up as required.
☐	Check open circuit voltage, electrolyte & fluid level (where applicable) of battery.
☐	Check condition, attachment and routing of all hoses and pipes in engine compartment, inc. brake, fuel, coolant, air conditioning, emission control system and L6 clutch.
☐	Check condition and attachment of all air ducts betweeen air cleaner and inlet manifold. (L6)
☐	Pressure test cooling system and radiator cap.
☐	Check carbon canister filter for leaks or restrictions.

85,000 km or 51 Month SERVICE VALIDATION

Servicing Dealer ....

Date of Service ....

Odometer ....

Signed ....

Additional Services Performed:

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UNDER VEHICLE OPERATIONS

	Manual transmission. Check for leaks
	Rear axle. Check for leaks
	Inspect CV joint for grease loss or damage.
	Lubricate transmission shift and clutch linkages.
	Steering and suspension inspection: Inspect front and rear suspension and steering system for damaged, loose or missing parts, signs of wear or lack of lubrication. Inspect power steering lines and hoses for condition, attachment and routing. Leaks etc. check condition of all rubber boots and covers.
	Inspect exhaust system and underbody near the exhaust system. Look for damaged, missing or out-of-position parts as well as open seams, holes, loose connections or other conditions which could cause a heat build up in the floor pan or could let exhause fumes seep into the passenger compartment.
	Check all brake, clutch and fuel lines, hoses and connections for condition, attachment and routing.
	Inspect disc brake pads for wear and discs for surface condition. Front
	Inspect disc brake pads for wear and discs for surface condition. Rear
	Remove rear drums, check linings for wear, inspect drums and wheel cylinders. Check operation of self adjusters. Clean components as necessary.
	Inspect tyres for irregular wear or damage. Also check for damaged wheels and advise owner of any corrective maintenance required. Check inflation pressures and torque wheel nuts.

INTERIOR VEHICLE OPERATIONS

	Check park brake operation. Adjust if necessary.

EXTERIOR VEHICLE OPERATIONS

	Check transmitter performance of Calais Anti-theft system.

ROAD TEST

	Check vehicle on road for braking performance, steering operation, engine response and transmission operation. • Check operation of cruise control • Check park pawl operation (auto) • Check neutral start switch (auto) • Correct and report any abnormal conditions.

95,000 km or 57 Months Service Coupon

GMH QUALITY SERVICE & PARTS

I authorise performance of the services specified on this coupon. I understand that I will be charged for this work which will take approx. 2.0 hrs. [subtract 0.4 hr if V8 engine fitted]

There will also be a charge for all lubricants and filters, parts used as a result of checks and additional services performed as requested.

Additional Services Requested:

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Signature .... Date ....

UNDER HOOD OPERATIONS

	Change engine oil, check level.
	Change oil filter.
	Check all fluid levels vis: brake, coolant, auto trans, power steering, (L6) clutch. Top up as required.
	Check open circuit voltage, electrolyte & fluid level (where applicable) of battery.
	Check condition and tension of all engine drive belts using gauge. Adjust if necessary.
	Check condition, attachment and routing of all hoses and pipes in engine compartment, inc. brake, fuel, coolant, air conditioning, emission control system and L6 clutch.
	Check condition and attachment of all air ducts betweeen air cleaner and inlet manifold. (L6)
	Pressure test cooling system and radiator cap.
	Air conditioning—check refrigerant charge at sight glass.
	Check operation of FICD solenoid valve. (L6 with A/C)
	Check operation on air regulator. (L6)
	Check vacuum fitting hoses and connections.
	Check and clean spark plugs. (L6 only)
	Replace spark plugs (V8 only)
	Check ignition timing, engine idle speed, cap, rotor, resistance of plug leads and V8 choke fast idle.
	Check operation of EFE system (V8)
	Check air preheat control damper assembly for correct cold and hot operation. Check attachment and condition of air preheat hose between manifold stove and air cleaner (V8)
	Clean and check EGR valve and manifold opening (V8)
	Check operation of automatic choke (V8)
	Clean or replace carburettor fuel fitter (V8)

95,000 km or 57 Month SERVICE VALIDATION

Servicing Dealer ....

Date of Service ....

Odometer ....

Signed ....

Additional Services Performed: ....

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UNDER VEHICLE OPERATIONS

	Manual transmission. Check oil level	
	Manual transmission. Check for leaks	
	Rear axle. Check oil level	
	Rear axle. Check for leaks	
	Inspect CV joint for grease loss or damage.	
	Steering and suspension inspection: Inspect front and rear suspension and steering system for damaged, loose or missing parts, signs of wear or lack of lubrication. Inspect power steering lines and hoses for condition, attachment and routing. Leaks etc. check condition of all rubber boots and covers.	
	Inspect exhaust system and underbody near the exhaust system. Look for damaged, missing or out-of-position parts as well as open seams, holes, loose connections or other conditions which could cause a heat build up in the floor pan or could let exhaust fumes seep into the passenger compartment.	
	Check all brake, clutch and fuel lines, hoses and connections for condition, attachment and routing.	
	Inspect disc brake pads for wear and discs for surface condition.	Front
	Inspect disc brake pads for wear and discs for surface condition.	Rear
	Remove rear drums, check linings for wear, inspect drums and wheel cylinders. Check operation of self adjusters. Clean components as necessary.	
	Inspect tyres for irregular wear or damage. Also check for damaged wheels and advise owner of any corrective maintenance required. Check inflation pressures and torque wheel nuts.	

INTERIOR VEHICLE OPERATIONS

	Check park brake operation. Adjust if necessary.
	Seat belt inspection. Examine webbing condition, buckle operation and retractor mechanism operation. Report any deficiencies.

EXTERIOR VEHICLE OPERATIONS

	Lubricate exterior door handle pivots, door and rear compartment strikers and hold open devices. Check and lubricate door lock and catch.
	Check transmitter performance of Calais Anti-theft system.

ROAD TEST

	Check vehicle on road for braking performance, steering operation, engine response and transmission operation. • Check operation of cruise control • Check park pawl operation (auto) • Check neutral start switch (auto) • Correct and report any abnormal conditions.

105,000 km or 63 Months Service Coupon

GMH QUALITY SERVICE & PARTS

I authorise performance of the services specified on this coupon. I understand that I will be charged for this work which will take approx. 1.4 hrs.

There will also be a charge for all lubricants and filters, parts used as a result of checks and additional services performed as requested.

Additional Services Requested:

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Signature .... Date ....

UNDER HOOD OPERATIONS

☐	Change engine oil, check level.
☐	Change oil filter.
☐	Check all fluid levels vis: brake, coolant, auto trans, power steering, L6 clutch. Top up as required.
☐	Check open circuit voltage, electrolyte & fluid level (where applicable) of battery.
☐	Check condition, attachment and routing of all hoses and pipes in engine compartment, inc. brake, fuel, coolant, air conditioning, emission control system and L6 clutch.
☐	Check condition and attachment of all air ducts betweeen air cleaner and inlet manifold.(L6).
☐	Pressure test cooling system and radiator cap.

105,000 km or 63 Month SERVICE VALIDATION

Servicing Dealer ....

Date of Service ....

Odometer ....

Signed ....

Additional Services Performed:

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UNDER VEHICLE OPERATIONS

☐	Manual transmission. Check for leaks
☐	Rear axle. Check for leaks
☐	Inspect CV joint for grease loss or damage.
☐	Lubricate transmission shift and clutch linkages.
☐	Steering and suspension inspection: Inspect front and rear suspension and steering system for damaged, loose or missing parts, signs of wear or lack of lubrication. Inspect power steering lines and hoses for condition, attachment and routing. Leaks etc. check condition of all rubber boots and covers.
☐	Inspect exhaust system and underbody near the exhaust system. Look for damaged, missing or out-of-position parts as well as open seams, holes, loose connections or other conditions which could cause a heat build up in the floor pan or could let exhaust fumes seep into the passenger compartment.
☐	Check all brake, clutch and fuel lines, hoses and connections for condition, attachment and routing.
☐	Front wheel bearings. Repack and adjust.
☐	Inspect disc brake pads for wear and discs for surface condition. Front
☐	Inspect disc brake pads for wear and discs for surface condition. Rear
☐	Remove rear drums, check linings for wear, inspect drums and wheel cylinders. Check operation of self adjusters. Clean components as necessary.
☐	Inspect tyres for irregular wear or damage. Also check for damaged wheels and advise owner of any corrective maintenance required. Check inflation pressures and torque wheel nuts.

INTERIOR VEHICLE OPERATIONS

☐	Check park brake operation. Adjust if necessary.

EXTERIOR VEHICLE OPERATIONS

☐	Check transmitter performance of Calais Anti-thef system.

ROAD TEST

☐	Check vehicle on road for braking performance, steering operation, engine response and transmission operation. • Check operation of cruise control • Check park pawl operation (auto) • Check neutral start switch (auto) • Correct and report any abnormal conditions

115,000 km or 69 Months Service Coupon

GMH QUALITY SERVICE & PARTS

I authorise performance of the services specified on this coupon. I understand that I will be charged for this work which will take approx. 2.8 hrs.
[Add 0.3 hr for Automatic Transmission.
0.1 hr for Rear Disc Brakes.
0.1 hr for V8 Engine]

There will also be a charge for all lubricants and filters, parts used as a result of checks and additional services performed as requested.

Additional Services Requested:

....

....

....

....

Signature .... Date ....

UNDER HOOD OPERATIONS

	Change engine oil, check level.
	Change oil filter.
	Check all fluid levels vis: brake, coolant, auto trans, power steering, L6 clutch. Top up as required.
	Check open circuit voltage, electrolyte & fluid level (where applicable) of battery.
	Check condition and tension of all engine drive belts using gauge. Adjust if necessary.
	Check condition, attachment and routing of all hoses and pipes in engine compartment, inc. brake, fuel, coolant, air conditioning, emission control system and L6 clutch.
	Check condition and attachment of all air ducts betweeen air cleaner and inlet manifold. (L6)
	Drain, flush and refill cooling system with pre-mixed coolant comprising water and recommended inhibitor. Inspect hoses and clamps. Clean outside of radiator and A/C condensor.
	Pressure test cooling system and radiator cap.
	Air conditioning—check refrigerant charge at sight glass.
	Check exhaust gas sensor operation. (3.0 Ltr)
	Check operation of FICD solenoid valve. (L6 with A/C)
	Check operation on air regulator. (L6)
	Check vacuum fitting hoses and connections.
	Check PCV valve for correct operation.
	Replace engine air cleaner element
	Replace spark plugs.
	Check ignition timing, engine idle speed, cap, rotor, resistance of plug leads and V8 choke fast idle.
	Check operation of EFE system (V8)
	Check air preheat control damper assembly for correct cold and hot operation. Check attachment and condition of air preheat hose between manifold stove and air cleaner (V8)
	Clean and check EGR valve and manifold opening (V8)
	Check operation of automatic choke (V8)
	Replace PCV filter in air cleaner (V8)
	Clean or replace carburettor fuel fitter (V8)

115,000 km
or 69 Month
SERVICE
VALIDATION

Servicing Dealer ....

Date of Service ....

Odometer ....

Signed ....

Additional Services Performed:

....

....

....

UNDERHOOD OPERATIONS

☐ Replace fuel filter. (L6)

☐ Manual transmission. Check oil level

☐ Manual transmission. Check for leaks

☐ Rear axle. Check oil level

☐ Rear axle. Check for leaks

☐ Auto transmission service. Drain and refill with fluid. Adjust bands and replace filter.

☐ Inspect CV joint for grease loss or damage.

☐ Steering and suspension inspection:
Inspect front and rear suspension and steering system for damaged, loose or missing parts, signs of wear or lack of lubrication. Inspect power steering lines and hoses for condition, attachment and routing. Leaks etc. check condition of all rubber boots and covers.

☐ Inspect exhaust system and underbody near the exhaust system. Look for damaged, missing or out-of-position parts as well as open seams, holes, loose connections or other conditions which could cause a heat build up in the floor pan or could let exhaust fumes seep into the passenger compartment.

☐ Check all brake, clutch and fuel lines, hoses and connections for condition, attachment and routing.

☐ Inspect disc brake pads for wear and discs for surface condition. Front

☐ Inspect disc brake pads for wear and disc for surface condition. Rear

☐ Remove rear drums, check linings for wear, inspect drums and wheel cylinders. Check operation of self adjusters. Clean components as necessary.

☐ Parking brake inspection—Rear disc brakes. Check linings and drum for wear.

☐ Hydraulic brake system—drain and refill with specified fluid. Bleed system. Check brake performance.

☐ Inspect tyres for irregular wear or damage. Also check for damaged wheels and advise owner of any corrective maintenance required. Check inflation pressures and torque wheel nuts.

☐ Hydraulic clutch system—drain and refill with specified fluid. Bleed system. Check clutch performance.

INTERIOR VEHICLE OPERATIONS

☐ Check park brake operation. Adjust if necessary.

☐ Seat belt inspection. Examine webbing condition, buckle operation and retractor mechanism operation. Report any deficiencies.

EXTERIOR VEHICLE OPERATIONS

☐ Lubricate exterior door handle pivots, door and rear compartment strikers and hold open devices. Check and lubricate door lock and catch.

☐ Check transmitter performance of Calais Anti-theft system.

ROAD TEST

☐ Check vehicle on road for braking performance, steering operation, engine response and transmission operation.
- Check operation of cruise control
- Check park pawl operation (auto)
- Check neutral start switch (auto)
- Correct and report any abnormal conditions.

125,000 km or 75 Months Service Coupon

GMH QUALITY SERVICE & PARTS

I authorise performance of the services specified on this coupon. I understand that I will be charged for this work which will take approx. 1.1 hrs.

There will also be a charge for all lubricants and filters, parts used as a result of checks and additional services performed as requested.

Additional Services Requested:

. . . .

. . . .

. . . .

. . . .

Signature . . . . Date . . . .

UNDER HOOD OPERATIONS

☐	Change engine oil, check level.
☐	Change oil filter.
☐	Check all fluid levels vis: brake, coolant, auto trans, power steering, L6 clutch. Top up as required.
☐	Check open circuit voltage, electrolyte & fluid level (where applicable) of battery.
☐	Check condition, attachment and routing of all hoses and pipes in engine compartment, inc. brake, fuel, coolant, air conditioning, emission control system and L6 clutch.
☐	Check condition and attachment of all air ducts betweeen air cleaner and inlet manifold. (L6)
☐	Pressure test cooling system and radiator cap.
☐	Check carbon canister filter for leaks or restrictions.

Additional Services Performed:

. . . .

. . . .

. . . .

125,000 km
or 75 Month
SERVICE
VALIDATION

Servicing Dealer . . . .

Date of Service . . . .

Odometer . . . .

Signed . . . .

UNDER VEHICLE OPERATIONS

☐	Manual transmission. Check for leaks
☐	Rear axle. Check for leaks
☐	Inspect CV joint for grease loss or damage.
☐	Lubricate transmission shift and clutch linkages.
☐	Steering and suspension inspection: Inspect front and rear suspension and steering system for damaged, loose or missing parts, signs of wear or lack of lubrication. Inspect power steering lines and hoses for condition, attachment and routing. Leaks etc. check condition of all rubber boots and covers.
☐	Inspect exhaust system and underbody near the exhaust system. Look for damaged, missing or out-of-position parts as well as open seams, holes, loose connections or other conditions which could cause a heat build up in the floor pan or could let exhaust fumes seep into the passenger compartment.
☐	Check all brake, clutch and fuel lines, hoses and connections for condition, attachment and routing.
☐	Inspect disc brake pads for wear and discs for surface condition. Front
☐	Inspect disc brake pads for wear and discs for surface condition. Rear
☐	Remove rear drums, check linings for wear, inspect drums and wheel cylinders. Check operation of self adjusters. Clean components as necessary.
☐	Inspect tyres for irregular wear or damage. Also check for damaged wheels and advise owner of any corrective maintenance required. Check inflation pressures and torque wheel nuts.

INTERIOR VEHICLE OPERATIONS

☐	Check park brake operation. Adjust if necessary.

EXTERIOR VEHICLE OPERATIONS

☐	Check transmitter performance of Calais Anti-thef system.

ROAD TEST

☐	Check vehicle on road for braking performance, steering operation, engine response and transmission operation. • Check operation of cruise control • Check park pawl operation (auto) • Check neutral start switch (auto) • Correct and report any abnormal conditions.

To ensure continued interest in your vehicle, GMH requests that owners who change their name or address, or subsequent owners who purchase the vehicle, fill in and mail one of the attached notices. Please forward to the address shown on the reverse side of the notice.

NOTICE OF NAME/ADDRESS OWNERSHIP CHANGE

NAME/ADDRESS CHANGE ☐ SUBSEQUENT OWNER ☐
PLEASE TICK ☐ APPROPRIATE SQUARE

Owner's Name Mr. Mrs. Miss ....

Address ....

Town ....

State .... Postcode ....

Registration No. ....

Vehicle Identification Number (V.I.N.) ....

(Refer Specifications Section of this Manual for location of V.I.N.)

NOTICE OF NAME/ADDRESS OWNERSHIP CHANGE

NAME/ADDRESS CHANGE ☐ SUBSEQUENT OWNER ☐
PLEASE TICK ☐ APPROPRIATE SQUARE

Owner's Name Mr. Mrs. Miss ....

Address ....

Town ....

State .... Postcode ....

Registration No. ....

Vehicle Identification Number (V.I.N.) ....

(Refer Specifications Section of this Manual for location of V.I.N.)

Place in an envelope and mail to:

The Manager—Warranty Administration,
Service Department,
General Motors—Holden's Sales Pty. Limited,
Box 548D, G.P.O.,
Melbourne,
Victoria, 3001.

Place in an evenlope and mail to:

The Manager—Warranty Administration,
Service Department,
General Motors-Holden's Sales Pty. Limited,
Box 548D, G.P.O.,
Melbourne,
Victoria. 3001.

SECTION 7

CARAVAN AND TRAILER TOWING

page 127 —Towing Tips and Precautions

page 128 —Towing Speeds and Loads v Equipment

page 129 —Additional Towing Equipment

page 130 —Towbar Ball Load

page 130 —Vehicle Weight Chart

page 131 —Loading the Vehicle

7—'Caravan & Trailer Towing'—TOWING TIPS

Running-In Period

It is best to drive your new Commodore or Calais for 1,500 kilometres before towing a load. If you must tow before this do not exceed 80 km/h. The same applies if you have a new or reconditioned engine, transmission or rear axle.

Automatic Transmission

More frequent vehicle maintenance is required when using your vehicle to pull a trailer. Where an automatic transmission is fitted the transmission fluid will need to be changed every 12 months or 20,000 kilometres. When towing heavy loads it is recommended that the automatic transmission on 6 cylinder engine models should be in the 'power' mode.

Tyres

When towing, your tyres should be inflated to the maximum recommended pressure. Refer to tyre placard in glovebox.

Safe Towing Tips

- Your vehicle will handle differently with a load behind. It's a good idea to make a couple of short distance trips with the caravan or trailer before you set off on the big one.
- Have your engine tuned before you leave.
- You should have an extended-arm mirror on **both** sides of the vehicle.
- Headlights may need re-aiming after the loaded caravan has been hitched up, particularly if a load equalizing hitch is not used.
- Use a lower gear, rather than your brakes, when going down steep hills.
- If your caravan or trailer moves off the road behind you, allow the left wheels of your car to move off as well. When it is safe to do so, carefully steer back on to the road. A sudden attempt to steer back could make you swerve dangerously.

CAUTIONS:

1. **When towing, your tyres should be inflated to the maximum recommended pressure. Refer to tyre placard in glovebox.**
2. **Do not use axle-mounted hitches. They can cause damage to the axle housing, wheel bearings, wheels and tyres.**
3. **Trailer brakes are required on trailers over 500 kg loaded mass except where State Laws may specify a lower limit. Some States specify that the maximum load to be towed must not exceed the vehicle mass.**
4. **It is permissible to tap into the rear brake system with a signal generating unit using not more than 0.21 cc of fluid displacement during the operation of the brakes. It must not be fitted to the front brake system.**
5. **The brakes on the trailer or caravan must be designed to cope with the braking requirements of that trailer or caravan under all towing conditions without adversely affecting the brakes on the towing vehicle.**
6. **WHENEVER A TOWBAR IS REMOVED BE CERTAIN TO HAVE ANY MOUNTING HOLES IN THE UNDERBODY PROPERLY SEALED TO PREVENT THE POSSIBLE ENTRY OF EXHAUST FUMES, DUST AND WATER.**
7. **Ensure that the tow bar does not obscure the rear licence plate, as this may violate State Law. If necessary, the tow bar tongue may need to be removed when not required for towing.**

7—'Caravan & Trailer Towing'—TOWING SPEED & LOAD Vs EQUIPMENT

IMPORTANT: Your Commodore or Calais is designed primarily as a passenger vehicle so handling, durability and economy may be affected by towing a caravan or trailer. Before attempting any towing ensure that the correct equipment is fitted to your vehicle. Your GMH Dealer will help supply and install towing equipment to suit your requirements.

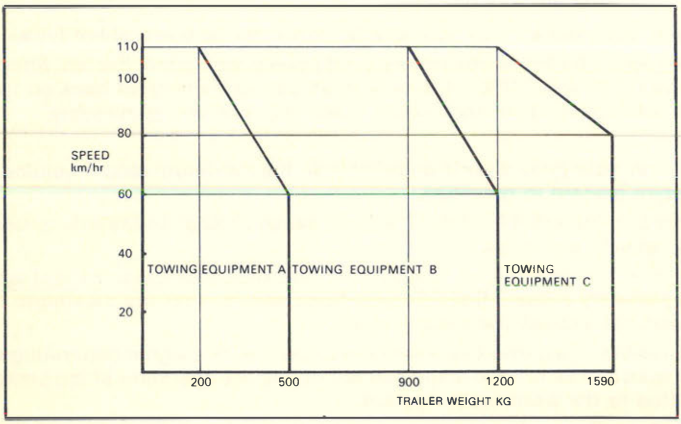
Never exceed the loadings given in Table I for the particular class of towing equipment fitted to your vehicle.

Your vehicle will fall into either category A, B or C depending on travelling speed and trailer (or caravan) weight. Each category requires extra equipment to be fitted to your vehicle to enable it to perform satisfactorily.

It will be seen that loads should be reduced for travel at higher speeds.

Determine which category your vehicle will fall into from Table I, then refer to Table II to determine which equipment is specified as essential and which equipment is preferable to your needs.

TABLE I



NOTICE: GMH towing equipment is recommended where it is available. Where it is not available no recommendation is made as to the make of equipment which should be used. Neither General Motors-Holden's Limited nor General Motors-Holden's Sales Pty. Ltd. will accept liability for defects occurring in towing equipment not marketed by General Motors-Holden's Limited or for defects in the vehicle arising from the use of such equipment.

TOWING EQUIPMENT

TABLE II

A	essential	GMP&A Trailer Wiring Harness Package
	essential	GMP&A 1200 kg rating Tow Bar Package (sedan or wagon as applicable)
	preferable	★ GMP&A Automatic Transmission oil cooler (if fitted with automatic transmission
B	essential	GMP&A Trailer Wiring Harness Package
	essential	GMP&A 1200 kg rating Tow Bar Package (sedan or wagon as applicable)
	essential	Load Equalizer Hitch when towball loads are in excess of 75 kgs (not available from GMP&A)
	essential	Trailer Brakes
	preferable	Automatic Transmission
	preferable	★ GMP&A Transmission Oil Cooler (if fitted with Auto)
C	essential	GMP&A Trailer Wiring Harness Package
	essential	1500 kg rating Tow Bar Package (not available from GMP&A—sedan or wagon as applicable)
	essential	Heavy Duty Tow Bar and Equalizer Hitch complying with SAE J784E or F Class 2 (not available from GMP&A)
	essential	Trailer Brakes—Electric or Hydraulic
	preferable	Automatic Transmission
	essential	★ GMP&A Transmission Oil Cooler (if fitted with Auto)
	preferable	Heavy Duty Battery
	preferable	Country Pack
	essential	GMP&A Body Side Brace Package (sedan only)

Note: GMP&A products are available through General Motors-Holden's Dealers.
Heavy Duty Radiators and Generators are standard on all VL Commodore and Calais Models.

If the trailer uses electrical current from the vehicle towing it (in excess of lights, stop lights and turn signals), then a heavy duty alternator and a heavy duty battery is specified.

★ Models equipped with V8 engines do not require Automatic Transmission Oil Coolers.

7—'Caravan & Trailer Towing'—VEHICLE WEIGHT & TOWBALL LOAD

The towbar ball load (measured in kilograms) is the vertical force required to support the trailer or caravan coupling in the towing position.
This weight can be adjusted by correctly packing the contents of the trailer or caravan. Ideally, the ball load should be 10% of the packed trailer or caravan weight but may be as high as the weight shown in the following table. If the ball load is too light or too heavy the steering and handling of the car will be greatly impaired.

Category (from page 128)	Maximum Permissible Towbar Ball Load
A & B	120 kg
C	160 kg

NOTE: If the ball load is more than 75 kg, a load equalizer hitch must be used.

BOOSTER SPRINGS AND SUPERLIFT SHOCK ABSORBERS

The use of booster springs or superlift shock absorbers DOES NOT increase the load capacity of the vehicle. The maximum loads shown in the chart below must NOT be exceeded if overloading of axle components and the consequent shortening of service life is to be avoided.

VEHICLE WEIGHT CHART

Model	(Estimated) Kerb Mass Kg			(Estimated) Maximum Rear Axle Loading Kg			(Estimated) Maximum Front Axle Loading Kg			(Estimated) Maximum Loaded Vehicle Mass Kg		
	Base	Turbo	V8	Base	Turbo	V8	Base	Turbo	V8	Base	Turbo	V8
SL Sedan	1253	1294	1338	892	900	905	852	867	888	1709	1751	1778
SL Wagon	1307	1348	1392	966	976	982	855	870	891	1805	1828	1855
Berlina Sedan	1292	1325	1360	899	909	917	857	877	893	1741	1770	1794
Berlina Wagon	1350	1383	1407	977	987	995	861	881	897	1822	1851	1875
Calais	1354	1383	1407	909	917	925	867	885	904	1762	1791	1814

NOTE: The kerb mass represents a standard unloaded vehicle without options but with a full tank of petrol.

At all times the total of the front axle load and the rear axle load should not exceed the maximum loaded vehicle mass.

When towing, the tow bar ball load (see above) must be subtracted from both the maximum rear axle and maximum vehicle loadings.

7—'Caravan & Trailer Towing'—

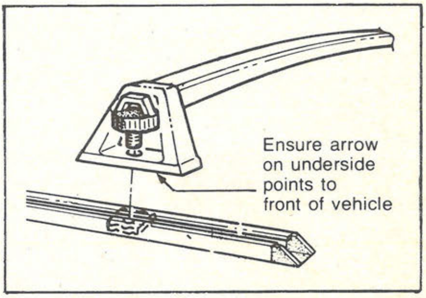
LOADING THE VEHICLE

Overloading is a safety hazard and could also shorten the life of your vehicle or its parts.

The recommended load carrying capacity of your vehicle is:
Sedan—one passenger for each seat belt provided, plus 68 kg luggage.
Wagon—one passenger for each seat belt provided, plus 91 kg luggage.

Roof Luggage Carrier

If your vehicle is fitted with the optional roof luggage carrier ensure that the cross bars are installed so that the arrow on the underside of the staunchion is pointing towards the front of the vehicle. If the cross bars are fitted in the reverse position, excessive wind noise may result.



Roof Rack Loads

No increase in maximum loaded vehicle mass is allowable where a roof rack is fitted. It must be understood that roof rack loads alter the handling characteristics of a vehicle due to a change in the centre of gravity. When carrying loads on the roof rack avoid abrupt swerving or sharp steering manoeuvres. The load should be evenly distributed. A load of no more than 68 kg is suggested as a reasonable limit.

SECTION 8 GENERAL MAINTENANCE INFORMATION

(also refer Basic Maintenance,
Section 5)

page 133 —General Notes
page 134 —Engine Oil and Filter
also refer Basic Maintenance Section, page 78
page 136 —Transmission & Rear Axle Oils
page 137 —Engine Coolant system
also refer Basic Maintenance Section, page 80
page 137 —Radiator Pressure Cap
page 138 —Fuel Filter
page 138 —Air Cleaner
page 139 —Replacement Fasteners
page 139 —Engine Drive Belts
page 139 —Spark Plugs
page 140 —Fuse System
page 141 —Super Lift Shock Absorbers
page 141 —"Add on" Equipment
page 143 —Tyres
page 146 —Bulb Replacement

8—GENERAL MAINTENANCE INFO.

General Motors-Holden's Limited recommends that your vehicle be serviced at authorised GMH Dealers. These dealerships are equipped with facilities, trained personnel and General Motors parts to service and maintain your vehicle to factory recommendations.

The scheduled maintenance services that your car requires and the resulting Dealer responsibilities are described in section 6 of this handbook. In addition to these services there are a few simple checks that the Onwer is regularly required to make. These are described in section 5. Ensure that you fully understand both the Dealer and Owner responsibilities as failure to do so may affect your warranty. Conditions of your warranty are outlined in section 4.

GMH also publishes various service manuals which are available from your Dealer or from:—

Stan H. Earle,
46 Isabella Street,
Moorabbin, Vic., 3189.

CAUTION: As with any machine, take care when making any check, doing any maintenance, or making any repair, to avoid being injured. Note that some of the materials in this car may be hazardous if used, serviced, or handled improperly. Improper or incomplete service could also lead to the vehicle not working properly which may result in personal injury, or damage to the car or its equipment. If you have any question about carrying out some service, have the service done by a skilled technician.

For the proper maintenance and performance of the vehicle, use only genuine General Motors parts.

THE USE OF PARTS, ADDITIVES AND/OR TREATMENTS OTHER THAN THOSE MARKETED BY GENERAL MOTORS MAY BE DETRIMENTAL TO YOUR VEHICLE'S PERFORMANCE AND SAFETY AND MAY VOID YOUR NEW VEHICLE WARRANTY.

Engine Oil & Filter

—It is the owner's responsibility to check (and top up if necessary) the oil level at least weekly. Please read Basic Maintenance section, page 78 carefully.

—The oil should be changed every 10,000 kms or 6 months (whichever occurs first). When operating in extreme conditions (refer page 89) this interval becomes every 5,000 kms.

—Use SF grade engine oil 20W/40. If operating in ambient temperatures over 35°, use SF grade engine oil 20W/50. For prolonged usage in snow areas, use 15W/30(SF) or 15W/40(SF) grade oils.
Oil viscosity is a significant factor in oil consumption, therefore if you use an oil which is too "thin" (low viscosity) your oil consumption will increase.

—capacity = 4.3 litres, if also changing filter add an extra 0.4 litres.

Oil Filter Replacement

The full-flow oil filter, with non-return check-valve, filters all the engine oil delivered by the oil pump. For this reason the filter change interval is very important.

The oil filter should be replaced every 6 months or 10,000 kms, whichever occurs first. However, under prolonged dusty driving conditions it is recommended that the filter be replaced every 5,000 kilometres or 3 months, whichever occurs first.

Used Oil Disposal

Do not dispose of used engine oil (or any other oil) in a careless manner such as pouring it on the ground, into sewers, or into streams or bodies of water. Instead, recycle it by taking it to a used oil collection facility which may be located in your area. If you have a problem disposing of your used oil, it is suggested that you contact your dealer or a service station.

Turbocharged Models

The turbocharger system uses engine oil for lubrication and cooling of its rotating components. The turbocharger turbine turns at extremely high speeds and its temperature can reach high levels. It is essential to maintain a clean supply of oil flowing through the turbocharger system. Therefore, a sudden interruption of oil supply may cause a malfunction in the turbocharger.

To ensure prolonged life and performance of the turbocharger, it is essential to comply with the following maintenance procedure:

1. Change your engine oil every 5,000 km or 6 months, whichever comes first. More frequent maintenance may be required under severe driving conditions. Use only the recommended oil.
2. If the engine has been operating at high load or high rpm for an extended period of time, let it idle for a few minutes prior to shutdown.
3. Do not accelerate your engine to high rpm immediately after a cold start.

Some Notes on Oil Consumption

Every internal combustion engine uses a certain amount of oil, especially during the running in period. Your engine is dependant on oil to lubricate the cylinder walls, pistons, rings and valve stems. A thin film of oil is left on the cylinder walls, some of which is carried into the combustion chamber and burnt during the combustion process. This also applies to the film of oil on the valve stems which is drawn into the combustion chamber and burnt.

There are several other factors that contribute to the rate of oil consumption in your engine, apart from mechanical malfunctions such as worn pistons, rings, valve stems and guides. These factors are: the way in which the vehicle is operated, the quality and grade of oil, the oil level, and dilution of the oil.

- **Operation of the Vehicle**
  Sustained high engine speeds will increase oil consumption because higher speeds increase engine temperature which lowers oil viscosity thus allowing more oil to reach the combustion chamber. Towing a heavy load will also result in increased oil consumption due to increased engine temperature and hence lower oil viscosity.

  It is recommended that heavy load towing be done only after the vehicle has been 'run-in'.

- **Quality and Grade of Oil**
  Oil viscosity is a significant factor in oil consumption, therefore if you use an oil which is too "thin" (low viscosity) your oil consumption will increase.

- **Oil Level**
  Maintaining a proper oil level is also an important factor in controlling oil consumption. An overfull crankcase allows the reciprocating parts of an engine to splash oil onto the cylinder walls in quantities greater than the piston rings can control. This excess oil will be drawn into the combustion chamber and burnt. Refer to 'Checking Oil Level' for maintaining correct levels.

- **Dilution**
  Probably the most prevalent complaint of oil consumption comes from the motorist whose vehicle is frequently driven at below normal operating temperatures. The oil becomes diluted by fuel and moisture which settles in the oil pan and may even raise the oil level creating a false reading on the oil level dipstick. For example, in a vehicle that has accumulated 1,500 kilometres of short distance or intermittent city operating and has consumed a normal amount of oil, the level may not have dropped from the "Full" mark, due to dilution. If this vehicle is driven for some distance at highway speeds on a warm day, the dilution elements evaporate, lowering the oil level and the motorist assumes the oil "lost" has been consumed in the highway operation.

  After taking into account the above factors, if you are still concerned that your engine has excessive oil consumption then you should discuss the situation with a GMH Dealer. Remember that an engine's oil consumption should not be judged until it has run at least 7,000 kilometres.

TRANSMISSION & REAR AXLE OILS

Manual Transmission

The oil level in the manual transmission must be checked and/or replaced at the intervals specified in the Maintenance Plan, page 91.

With the vehicle standing on level ground, remove the filler plug and check that oil is level with bottom of filler plug opening.

This five speed Transmission has a square filler plug located on the passenger side of the transmission. This should be tightened between 25-34 Nm.

Use gear oil conforming to GM-H specification number HN 1855, SAE 80W when replacing or adding to the manual transmission.

Automatic Transmission

It is the owner's responsibility to check (and top up if necessary) the fluid level at least weekly. Please read Basic Maintenance section, page 79 carefully.

As all adjustments, cleaning and servicing of automatic transmissions requires specialised equipment and knowledge it is recommended that these operations be performed by an authorised GMH Dealer.

Rear Axle Oil

Refer to the Maintenance Plan to find out how often the lubricant level should be checked.

Add lubricant if needed, to fill to the level of the filler plug hole located in the rear cover of the differential carrier housing. Use only the lubricant specified in the Specification Section, page 153.

ENGINE COOLANT SYSTEM

Coolant Recovery System

Your car is fitted with a coolant recovery system. As the car is driven, the engine coolant is heated and expands. The radiator pressure cap senses this expansion and releases coolant out through the overflow hose into the coolant recovery reservoir. This reservoir is situated in the engine compartment in front of the right hand strut tower. When the vehicle has stopped and the system cools down, coolant is drawn back into the radiator.

It is the owner's responsibility to check (and top up if necessary) the coolant level at least weekly. Please read Basic Maintenance section, page 80 carefully.

Radiator Pressure Cap

This cap is designed to allow the cooling system to operate at temperatures over 100°C without boiling. It does this by causing the system to operate under pressure which in turn raises the boiling point of the coolant. The pressure rating of the radiator cap is 103 Kpa. Have the cooling system and radiator cap pressure tested routinely according to GMH Maintenance Plan. If a replacement cap is needed be sure to use only a cap which is specified for your model.

CAUTION: Do not remove the radiator cap when the engine and radiator are hot. Scalding fluid and steam can be blown out under pressure if the cap is removed from a hot radiator.

After the engine has cooled sufficiently the cap should be rotated slowly to the first stop, which permits the pressure to release slowly through the overflow pipe. Before doing this, cover the cap with an old rag or cloth to avoid possible scalding.

Coolant Replacement

To maintain the cooling system in good condition it is recommended that every 2 years or 40,000 km the coolant be replaced. This will ensure that the accumulation of scale and corrosion products is kept to a minimum thereby keeping the cooling system clean and operating efficiently.

Draining the engine block requires removal of the thermostat and drain plug, so if you wish to drain the coolant yourself a Service Manual should be purchased. Refer page 133 for source.

Thermostat

The engine coolant temperature is controlled by a thermostat. It stops coolant flow through the radiator until a preset temperature is reached. The same thermostat is used in both winter and summer. If your engine is overheating or running too cool then the thermostat should be checked for correct operation.

When replacing the fuel filter on EFI engines there are several precautionary measures which must be observed. A detailed procedure for fuel filter replacement on EFI engines is given in the Service Manual.

When replacing filters use only Genuine Replacement Parts.

EVAPORATIVE CONTROL SYSTEM

At the intervals specified in Section 6, check all the fuel and vapour lines for proper connections and correct routing as well as condition. Remove cannister and check for cracks or damage. Replace damaged or deteriorated parts as necessary.

AIR CLEANER

The air cleaner element is disposable and should be replaced as outlined in the Maintenance Plan. Do not wash or oil it or clean it with an air hose. If your vehicle operates in dusty conditions for any length of time the element should be replaced more often. Refer to extreme operating conditions, page 89. When replacing the element, a genuine GMH replacement cleaner element is recommended.

When servicing the air cleaner on Electronic Fuel Injection engines:

—Handle air cleaner cover carefully (do not drop, hammer or immerse in water) as it contains the air flow meter.

—On reassembly, ensure the air flow meter wiring connection is reconnected properly and hose connections to the inlet duct are free of leaks as these items will affect air fuel ratio.

CAUTION: The air cleaner also functions as a flame arrestor in the event of engine backfire. The air cleaner should be installed at all times unless temporary removal is necessary for repair or maintenance. With the air cleaner removed, backfiring could cause fire in the engine compartment.

8—GENERAL MAINTENANCE INFO.

REPLACEMENT FASTENERS

During vehicle maintenance, any fasteners used to replace older ones must have the same measurements and strength as those removed, whether metric or imperial. (The numbers on the heads of metric bolts and on the surfaces of metric nuts show their strength. Imperial bolts use radial lines to show this, while most imperial nuts do not have strength markings.) Fasteners taken from the car should be saved for re-use in the same spot except where a mandatory replacement is required. Where a fastener cannot be used again, take care to choose a replacement that matches the old one. When retightening always use the specified torque (refer to Service Manual). For information and help, see your GMH dealer.

CAUTION: This car is primarily dimensioned in the metric system. Most fasteners are metric and many are very close in dimension to common imperial fasteners. Mismatched or incorrect fasteners can result in damage to the car or possibly personal injury.

ENGINE DRIVE BELTS

The various engine drive belts should be kept at the correct tension. A loose belt will wear more quickly and the resultant slipping does not allow the particular component viz; generator, cooling fan and water pump, air conditioning compressor or power steering pump to operate correctly. Premature failure of the cooling fan/water pump belt could result in a serious engine overheating problem.

Inspection and adjustment of drive belts should be carried out at the intervals specified in the Maintenance Plan, or as required to maintain correct operation at all times. If you have any doubts about servicing the engine drive belts yourself then have it done by a GMH Dealer. Replacement belts should be of the type specified for your vehicle.

SPARK PLUGS

To maintain efficient engine operation, control exhaust emissions and achieve optimum fuel economy the spark plugs must always be in good firing condition.

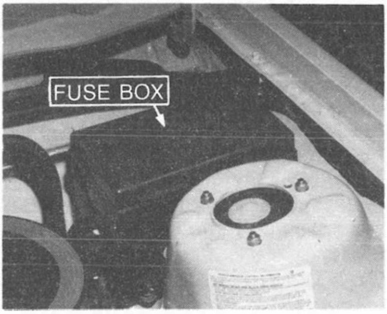
If on inspection the plugs appear dirty, carefully scrape carbon and deposits off the electrodes with a suitable file. If the plugs appear badly burned or cracked or completely fouled then replace with new plugs. Before reinstalling any spark plug ensure that you check the gap with a feeler gauge. Refer to page 152 for correct plug gap and type.

HIGH ENERGY IGNITION SYSTEM

Engines fitted with High Energy Ignition Systems can produce high tension voltages in the primary and secondary circuits which are dangerous. Any work carried out must be done with utmost care. Before removing or refitting any parts or electrical connections, ensure that the ignition system is switched off and the battery disconnected.

Care should be taken when servicing, to avoid contact with conductive parts to avoid severe electrical shock.

FUSE SYSTEM



The fuses in the electrical system are contained in the fuse box located in the engine compartment, behind the passenger side strut tower. Access to the fuses is gained by removing the snap on cover.

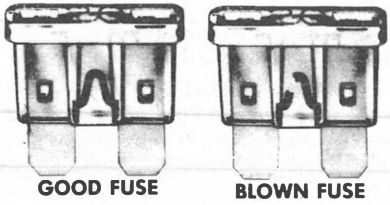
Fuses can be identified by referring to the fuse layout on the inside face of the fuse box cover.

For identification of fuse box components also refer to 'Specifications' Section page 155.

Fuses used are of the blade type with the amperage value of each fuse moulded into its head. To determine whether or not a fuse is 'blown', it is necessary to remove the suspect fuse and examine the element in the fuse. If the element is broken (see illustration), replace the fuse with one of the same amperage value.

If after replacing a burnt-out fuse the new fuse also burns out, this indicates that the fuse is still overloaded. The cause of the fault should be located and rectified, preferably by a GMH Dealer.

CAUTION: When replacing a fuse be sure to use a fuse of the specified amperage. Never install a wire or similar device to replace a fuse as it could damage electrical components and may cause a fire hazard to the vehicle.



Fusible Link

The main wiring harnesses in your vehicle are protected from electrical overload by fusible links incorporated into the wiring system.

In case of a short circuit, the link will melt internally thus disconnecting the battery. The insulation encasing the fusible link is designed to withstand the extremely high temperatures generated in the fusing process thereby minimizing the risk of fire.

See your GMH Dealer if fusible link replacement becomes necessary.

8—GENERAL MAINTENANCE INFO.

SUPERLIFT SHOCK ABSORBERS (where fitted)

These allow direct control of vehicle level, so that when a vehicle is loaded or towing a caravan or trailer, the loaded height can be readjusted to give improved ride and handling and ground clearance in rough terrain. Also, they maintain a better headlamp level when high beam is used.

Superlift shock absorbers used compressed air and can be inflated or deflated through an air valve, similar to any standard tyre.

Air Pressure Valve Location

Inside the luggage compartment on the right side to the upper rear of the wheel housing on sedans. On wagons, on the left side of the rear door opening in the load compartment.

Air Pressure Recommendations

1. Never allow the pressure to fall below 70 kPa as this will result in damage to the shock absorbers.
2. Maximum permissible pressure when vehicle is fully loaded is 620 kPa.
3. Maximum permissible pressure when the vehicle is unloaded is 210 kPa.
4. The shock absorbers should be inflated when the vehicle is standing on a level surface and only until:
   (a) The vehicle appears to be level, or
   (b) Maximum permissible pressure is reached, whichever is reached first.
   (c) Satisfactory ride characteristics will be obtained based on your experience with the system but the above limits must not be exceeded.

CAUTION: Do not drive the car with Superlift shock absorbers inflated when the car is unladen as vehicle handling is affected. (The car should be at normal trim level.)

"ADD ON" EQUIPMENT—FRONT OF VEHICLE

Owners intending to fit additional equipment to the front of the vehicle, such as 'bull bars' etc. should first check with their GMH dealer.

Depending on the mass of the equipment, it may be necessary to fit heavier duty springs and struts to help avoid potential damage to the front underside of the vehicle when driving in rough road conditions.

NOTE: Vehicles that have been fitted with the optional Country Pack will have these heavy duty front suspension components fitted as part of the package.

OUTSIDE REAR-VISION MIRRORS —'KNOCKAWAY' FEATURE

The outside mirror(s) fitted to your VL Commodore and Calais may be of the type which is released from its support if it receives a heavy impact from the front or the rear. If this happens the mirror will need to be reassembled to its support using either of the following methods:

The adjuster knob (inside the car) moves the mirror by means of a T-bar shaped mechanism. If the mirror has been knocked out of place, the T-bar may also have been dislodged.

Before pushing the mirror back into position, check that the T-bar is lodged in position, refer fig two.

If not in correct position, (as in fig one), open the door and with one hand move the adjuster lever (inside the car) while moving the mirror with the other hand, until the T-bar is lodged in the slots shown in fig two.

Then close the door, grasp the whole of the mirror with your hand and, using bodyweight, push the mirror until it snaps into position.

If the mirror will not budge, apply blows to the end of the mirror using a clenched fist or the palm of your hand. To protect the hand it may be necessary to wear a padded glove—do not use a heavy mallet or similar tool as this may crack the plastic casing.

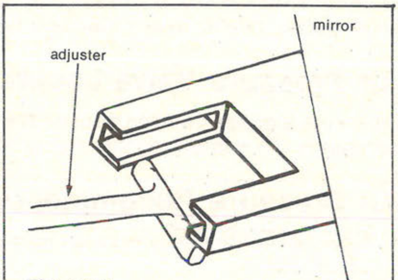


Fig. one

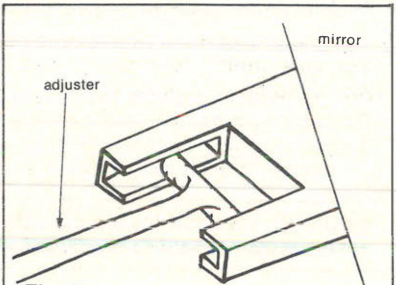
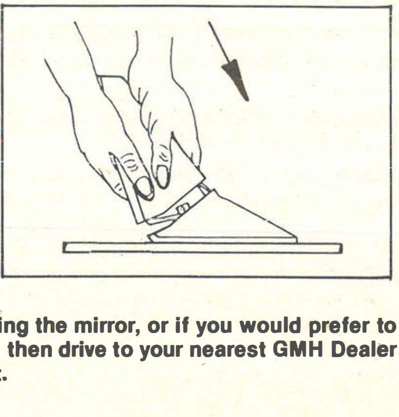


Fig. two



NOTE: If you experience difficulty in reassembling the mirror, or if you would prefer to have this operation carried out by someone else, then drive to your nearest GMH Dealer who will arrange to have it done while you wait.

8—GENERAL MAINTENANCE INFO.

TYRES

It is the owner's responsibility to check (and adjust if necessary) the air pressure at least weekly. Please read Basic Maintenance section, page 81 carefully.

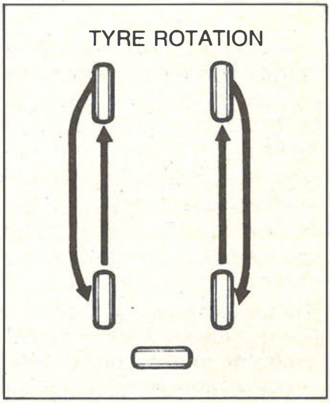
Tyre Inspection and Rotation

Front and rear tyres perform different jobs and can wear differently depending on the types of roads driven, your driving habits, wheel alignment and balance, tyre pressures etc.

For longer tyre life, you should have the tyres inspected, and rotated if required, at the intervals specified in the GMH Maintenance Plan.

Your GMH Dealer will be able to diagnose any unusual signs of wear and can also balance the wheels and tyres for you. If the tyres are rotated, it is recommended that the balance be checked at the same time.

Refer to illustration for the preferred way of rotating your tyres. If no abnormal or uneven wear is evident, tyres need not be rotated.



Alignment and Balance

Improper wheel alignment can cause the tyres to wear faster and to wear unevenly. It can also cause the car to 'pull' to the left or right.

Out-of-balance wheels and tyres can cause annoying vibration and uneven tyre wear such as cupping and flat spots.

If you have any reason to suspect that either of the above problems exists then have a wheel alignment and balance check done by your GMH Dealer.

Wheel Replacement

When replacing wheels for any reason, ensure that the new wheels are equivalent in diameter, rim width, offset and mounting configuration to those originally installed in your car.

NOTE: Replacing your factory fitted wheels and tyres with non specified wheels and tyres may void your new vehicle warranty as well as your motor vehicle insurance policy.

Tyre Replacement and Repair

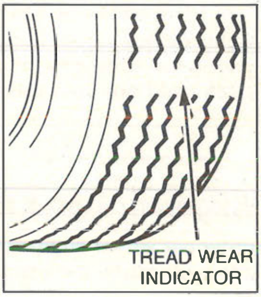
CAUTION: Do not mix different tyre construction types, such as radial and cross ply, on your vehicle except in emergencies, because your car's handling could be affected and may result in loss of control.

When replacing tyres you should use the same size, load rating and construction type as the original tyres on your car. Refer to tyre placard inside glove box for tyre size and load rating. Using a different size or type of tyre may affect such things as ride, handling, speedometer/odometer calibration, vehicle ground clearance and tyre or tyre chain clearance to the body or chassis.

Tyres with a higher speed rating and/or with a maximum load rating in excess of that listed in the tyre placard for tyre size listed are also acceptable as replacements provided they are fitted to a suitable rim size.

New tyres should be fitted in pairs to the front. If replacing only one tyre, it should be paired on the same axle with the least worn of the other three.

You should replace your tyres when:



1. The tyres are worn to the point where the tread indicators appear or the cord or fabric is showing. The original equipment tyres fitted to your vehicle incorporate built-in tread wear indicators which assist in determining when the tyres have worn to the point of needing replacement. (See illustration) in the interests of safety, replacement should not be delayed.
2. The tread or sidewall is cut, split, or cracked deep enough to expose the cord or fabric.
3. The tyre has a bump or bulge in it, indicating some kind of internal damage.
4. The tyre has a puncture, cut or other damage which can't be repaired because of the size or location of the damage.

If in doubt about the extent of damage to the tyre have it removed from the wheel and examined by a tyre specialist.

If a pressure loss occurs while driving, do not attempt to drive on the deflated tyre more than is necessary to stop safely. Driving even a short distance on a deflated tyre can damage it and the wheel beyond repair.

When an object which has punctured the tyre is removed, repairs are to be made in accordance with the tyre manufacturer's recommendations.

CAUTION: Tyres which have been repaired or retreaded will not be able to be operated safely at high speeds therefore their use is not recommended under these driving conditions.

8—GENERAL MAINTENANCE INFO.

Tyre Traction

CAUTION: A decrease in driving, cornering and braking traction occurs when water, snow, ice, gravel or other material is on the road surface. Driving practices and vehicle speed should be adjusted to the road conditions.

When driving on wet or slushy roads, it is possible for a wedge of water to build up between the tyre and road surface. This phenomenon, known as hydro-planing, may cause partial or complete loss of traction, which adversely affects vehicle control and stopping ability. To reduce the possibility of traction loss, the following precautions should be observed.

1. Reduce speed levels during rainstorms or when roads are slushy and if the road has standing water or puddles.
2. Replace tyres when tread wear indicators are visible.
3. Check that tyres are properly inflated for speed range and vehicle loading.

Heavy Treads

Caution must be exercised when using tyres with heavy treads, including tyres designed to gain traction in bad weather conditions. At sustained high speeds, this type of tyre will run at higher temperatures than standard tyres and consequently should only be operated within the limits recommended by the manufacturer.

Any doubts concerning the fitness of the tyres on your vehicle for the purpose you require should be referred to your GMH Dealer, who will be pleased to advise.

BULB REPLACEMENT

Refer to 'Specifications' Section for correct specifications of replacement bulbs.

Front Turn Signal Lights

1. The lamp socket is located in the engine compartment next to the headlight.
2. Twist lamp socket anticlockwise to remove.
3. Lightly depress bulb and remove in a twisting motion out of the socket.
4. Insert new bulb, and reassemble in reverse sequence to removal.

Rear Turn Signals, Stop and Tail Lights, Reverse Lights—Sedan

1. Remove the respective bulb socket from the lamp housing by twisting the socket. Bulb socket sequence from outside to inside is: Turn Signal; Stop/Tail; Stop/Tail; Reverse Light.

NOTE: To remove the left hand side Turn Signal socket and first Stop/Tail socket, you must depress the locking lever on the side of the socket before twisting the socket in an anticlockwise direction.

2. Depress bulb and rotate to remove from socket.
3. Insert new bulb and reassemble in reverse sequence to removal.

—Wagon

1. Unscrew the four cross-recess head screws and remove the lens.
2. Slightly depress respective bulb and rotate to remove from socket.

Bulb socket sequence from the top downwards is: Turn Signal Light; Stop and Tail Light; Reverse Light.

3. Insert new bulb and reassemble in reverse sequence to removal.

Headlights

NOTE: Do not touch bulbs or reflectors with bare hands. Greasy fingers will cause stains which evaporate—eventually resulting in a dull reflector.

Grease spots on Halogen-bulbs will, within a short time, lead to bulb failure.

Inadvertently stained bulbs may be cleaned with tissue paper, or a clean, non-fuzzy cloth, using alcohol or white spirits.

Headlight aiming is a safety item and should be carried out by your GMH Dealer.

The procedure for replacing headlight high/low beam bulbs is as follows:—

Headlight High/Low Beam

1. Remove protective rubber headlight.
2. Remove wiring connector from the bulb.
3. Release spring clip which retains housing and withdraw bulb.
4. Insert new bulb so that the lugs on the bulb engage in the recesses in the bulb housing. Do not touch the glass of the new bulb as this drastically reduces bulb life.
5. Proceed in reverse sequence to removal.
6. Re-aim headlights (headlight aim varies from bulb to bulb). Detailed procedures for headlight aiming are given in the relevant service manual for your car.

   However, because headlight aiming is a safety item it is recommended that you have it done by your GMH Dealer.

Parking Light

1. Remove protective rubber cover from rear of headlight.
2. Remove parking light bulb holder (located adjacent to headlight bulb) by pulling straight out of housing.
3. Remove parking light bulb by pulling straight out of holder.
4. Insert new bulb and proceed in reverse sequence to removal.

Headlight Inboard High Beam

1. Remove rubber cover located in top of headlight housing.
2. Release spring clip which retains bulb in housing.
3. Withdraw bulb and disconnect electrical connector.
4. Insert new bulb, reconnect electrical connector and proceed in reverse sequence to removal. Ensure that the rubber cover is replaced correctly to avoid water/dust entry into headlight.

Courtesy Light

To remove, gently squeeze together the long sides of the plastic lens (not the plastic surround) to gain access to the bulb. The bulb is of the festoon type and can be removed by pulling it straight out from its retaining clips.

Courtesy/Reading Light (where fitted)

To replace the centre courtesy light bulb gently prise plastic lens away from housing. The festoon type bulb can then be replaced.

To replace the reading light bulb the chrome plated housing must first be removed by unscrewing the 2 screws. The reading lamp bulbs can then be removed by depressing and then twisting anticlockwise. Insert new bulb and then reassemble in reverse sequence to removal.

Licence Plate Light—Sedan

1. Remove bulb from socket by turning anti-clockwise.
2. Insert new bulb by turning clockwise.

Licence Plate Light—Wagon
(2 Places)

1. To remove lamp from bumper, release spring on the right using a screwdriver and ease lamp out by moving upwards.
2. Depress protruding tongue and remove lamp socket from housing.
3. Remove bulb from holder.
4. Insert new bulb and replace holder.

Engine Compartment and Glove Box Lights

Procedure for replacing the festoon type bulbs is similar to that for replacing the boot light.

Boot Light

1. Carefully prise plastic housing away from body using a screw driver.
2. Remove bulb from clips by applying slight pressure towards clips.
3. Insert new bulb and proceed in reverse sequence to removal.

Rear Reading Light (where fitted)

Similar to above procedure for boot bulb replacement.

Instrument Panel and Console Lights

Replacement of these bulbs is recommended to be done only by a GMH Dealer or another competent person as all wiring and associated attachments are prone to damage if not serviced correctly.

SECTION 9 SPECIFICATIONS AND EMISSION CONTROL

page 152 —Engine Specifications
page 152 —Fuel Tank Specifications
page 153 —Transmission Specifications
page 153 —Rear axle Specifications
page 153 —Steering Specifications
page 153 —Brake Specifications
page 153 —Front Wheel Bearing Specifications
page 153 —Speedo Cable Specifications
page 153 —Clutch Specifications
page 154 —Lubrication of Various Locks, Hinges, Catches, Linkages and Pivots
page 155 —Fuse Specifications
page 157 —Vehicle Dimensions (height, length etc.)
page 157 —Tyre Specifications
page 156 —Bulb Specifications
page 158 —Identification Plates and Numbers
page 160 —Emission Control System

ENGINE AND

Engine Type	3.0 E	3.0 ET	2.0 E	V8
Piston Displacement	2960 cm^3	2960 cm^3	1998 cm^3	4983 cm^3
Description	6 cylinder engines featuring overhead cam, electronic fuel injection, electronic spark control and closed loop idle speed control.			8 cylinder
Aspiration	Normal	Turbo charged	Normal	Normal
Cylinder numbering —front to rear	1,2,3,4,5,6	1,2,3,4,5,6	1,2,3,4,5,6	RH Bank 1,3,5,7 LH Bank 2,4,6,8
Firing order	1,5,3,6,2,4	1,5,3,6,2,4	1,5,3,6,2,4	1,2,7,8,4,5,6,3
Compression ratio	9.0:1	7.8:1	9.5:1	8.5:1
Bore	86 mm	86 mm	78 mm	101.6 mm
Stroke	85 mm	85 mm	69.7 mm	76.8 mm
Torque Nm @ rpm	247 @ 3600	296 @ 3200	180 @ 4000	323 @ 3200
Power kW @ rpm	114 @ 5200	150 @ 5600	95 @ 5600	122 @ 4400
Taxable horsepower	27.5	27.5	22.6	51.2
Oil Specification	For normal operating conditions, use SF grade engine oil 20W/40. If operating in temperatures over 35°, use of SF grade engine oil 20W/50 is recommended. For prolonged use in snow areas, the use of 15W/40 (SF) is recommended.			
Oil capacity (add for filter)	4.3 litres 0.4 litres	4.3 litres 0.4 litres	4.3 litres 0.4 litres	4.3 litres 0.3 litres
Coolant specification	2/3 water to 1/3 volume GM part no M39288 or 2/3 water to 1/3 by volume GM part no. M39338			
Coolant capacity	10.5 litres	10.7 litres	10.5 litres	12.0 litres

TRANSMISSION SPECIFICATIONS

		3.0 E		3.0 ET		2.0 E		V8
Spark plug type		NGK BCP R6ES 11		NGK 6CP R6ES 11		NGK 6CP R6ES 11		44 TX
Spark plug gap		0.9—1.0 mm		0.9—1.0 mm		0.9—1.0 mm		1.4—1.5 mm
Ignition timing		15° BTDC at 700 rpm		15° BTDC at 700 rpm		15° BTDC at 700 rpm		6° BTDC at 750 rpm
Radiator Pressure Cap		103 kPa		103 kPa		103 kPa		103 kPa
Idle mixture settings		Idle mixture and basic throttle settings have been preset and sealed. Removal of mixture screw caps and alterations to other than specified idle CO settings may violate State law						
TRANSMISSIONS		Man	Auto	Man	Auto	Man	Auto	Auto
Gear ratios: 1	1st	3.321	2.458	3.580	2.458	3.592	2.842	2.31
	2nd	1.902	1.458	2.077	1.458	2.057	1.542	1.46
	3rd	1.308	1.000	1.360	1.000	1.361	1.000	1.00
	4th	1.000	0.686	1.000	0.686	1.000	0.686	—
	5th	0.759	—	0.760	—	0.813	—	—
	Rev	3.382	2.182	3.636	2.182	3.657	2.400	1.85
Transmission fluid capacity in litres		1.9	2.5	2.0	2.5	1.9	2.5	2.3

Fluid specifications
All manual transmissions—Gear Oil meeting GM spec. Hn 1855 SAE 80W
All automatic transmissions—Dexron 11* Automatic Transmission Fluid

*Dexron 11 is a registered trademark of General Motors Corporation

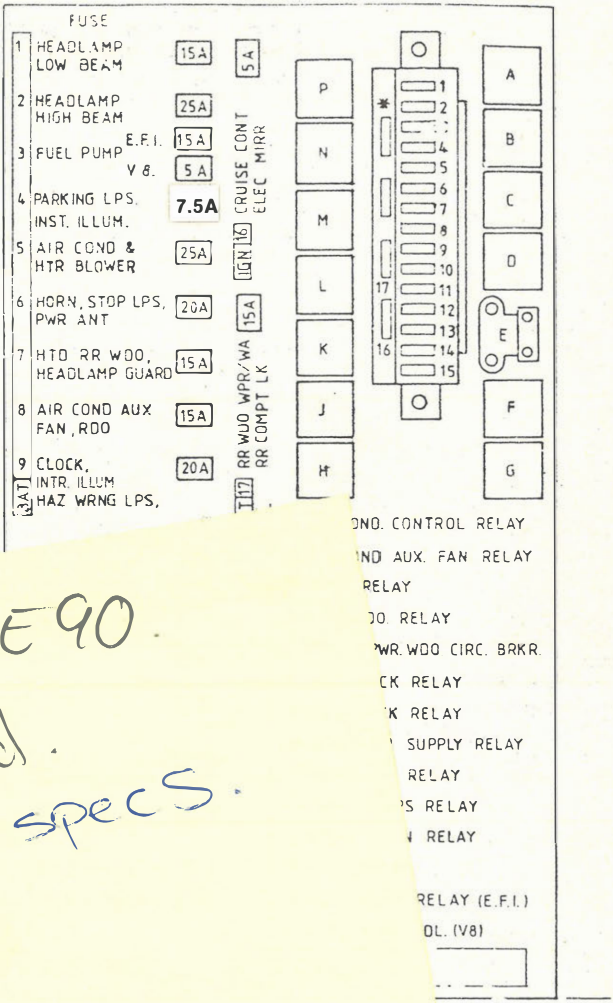
NOTE: Non-detergent and other low quality oils are specifically *not* recommended. The use of break-in oils, tune-up compounds, friction-reducing compounds and other supplemental additives are *not* recommended; their use will not only increase operating costs, but may be detrimental to the operation of your car.

GENERAL SPECIFICATIONS

REAR AXLE		
Specification		Use oil to GM Specification HN1561
Capacity		1.4 litres
Ratio		3.45:1 (when fitted with 3.0 litre engine) 3.08:1 (when fitted with V8 engine) 4.11:1 (when fitted with 2.0 litre engine)
STEERING	POWER Specification	*Dexron II Automatic Transmission Fluid
	MANUAL Capacity	Sealed Unit
BRAKES		
Calais models & Commodore equipped with 3.0 ET or V8 engines		4 wheel disc
Commodore models		Front disc, rear drum
Specification		Heavy duty brake fluid meeting GM HN1796
CLUTCH (where fitted) Specification		Heavy duty brake fluid meeting GM HN1796
Front wheel bearings		Grease meeting GM specification HN1227
Speedo cable Specified Lubricant		Grease meeting GM HN1421
Door lock cylinder Glovebox lock cylinder Boot lid lock cylinder Tail gate (station wagon) lock cylinder Fuel cap lock cylinder		Powered graphite —apply through key aperture
Bonnet catch Boot hinges Bonnet and door hinges Tail gate (station wagon) hinges		Non-staining grease or zinc oxide grease —use sparingly on parts likely to be contacted with clothing
Brake and clutch pedal pivots Clutch linkages Transmission control linkage Parking brake system Pivots and guides		Grease meeting GM specification HN 1271
Accelerator pivots		Grease meeting GM specification HN1225 (LG-2)

*Dexron II is a registred trademark of General Motors Corporation.

FUSE BOX


FUSE
1 HEADLAMP LOW BEAM 15A
2 HEADLAMP HIGH BEAM 25A
3 FUEL PUMP E.F.I. 15A
V 8. 5 A
4 PARKING LPS. INST. ILLUM. 7.5A
5 AIR COND & HTR BLOWER 25A
6 HORN, STOP LPS, PWR ANT 20A
7 HTD RR WDO, HEADLAMP GUARD 15A
8 AIR COND AUX FAN, RDO 15A
9 CLOCK, INTR. ILLUM HAZ WRNG LPS, 20A
3AT
5 A
CRUISE CONT
ELEC MIRR
IGN 16
15A
RR WDO WPR/WA
RR COMPT LK
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ND AUX. FAN RELAY
RELAY
DO. RELAY
WR. WDO CIRC. BRKR.
CK RELAY
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SUPPLY RELAY
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RELAY
RELAY (E.F.I.)
OL. (V8)

EP SAE 90.

Hypoid.

oil specs.

BULBS

APPLICATION		GM-H PART NUMBER	POWER RATING	BASE TYPE
Headlamps	Hi/Lo Beam Outboard	11071361	60/55 Watt	H4
	Inboard High Beam	11063979	55 Watt	H3
Parking (front)		9421330	5 Watt	Wedge
Turn Signal (front)		11062779	21 Watt	Std. Parallel pin
Turn Signal (rear)		11062779	21 Watt	Std. Parallel Pin
Back-up Lamp		11062779	21 Watt	Std. Parallel Pin
Stop and Tail Lamp		11062789	21/5 Watt	Std. Offset Pin
Number Plate Lamp (sedan)		SP-1467	6 Watt	Std. Parallel Pin
Number Plate Lamp (wagon)		SP-1903	3 Watt	Festoon
Engine Compartment Lamp		11030669	10 Watt	Festoon
Rear Compartment Lamp		11030669	10 Watt	Festoon
Dome (courtesy) Lamp		9414045	10 Watt	Festoon
Front Seat Reading Lamp		455136	12 Watt	Std. Parallel Pin
Rear Seat Reading Lamp		11030669	10 Watt	Festoon
Glove Compartment Lamp		11015639	5 Watt	Festoon

For specifications of all instrument panel illumination and warning lights see your GMH Dealer

9—'Specifications & Emission Control'—TYRES & VEHICLE DIMENSIONS

TYRE SPECIFICATIONS TABLE

(**NOTE:** Always refer to the placard in the glove box for **specifications for your vehicle**.)

			Recommended cold inflation pressure kPa (P.S.I.)			
			Up to 3 passengers		Up to max. load	
Model	Wheel	Tyre size	Front	Rear	Front	Rear
SL & Berlina	6.0 JJ x 14 Steel	P185/75 HR14	180 (26)*	180 (26)*	240 (34)	240 (34)
SL & Berlina equipped with Turbo or V8	6.0 JJ x 15 Steel	P205/65 HR15	180 (26)*	180 (26)*	240 (34)	240 (34)
Calais	6.0 JJ x 15 Alloy	P205/65 HR15	180 (26)*	180 (26)*	240 (34)	240 (34)

*Where shown, 30 Kpa (4psi) to be added when vehicle is used in constant high speed.

WHEEL NUT TORQUES

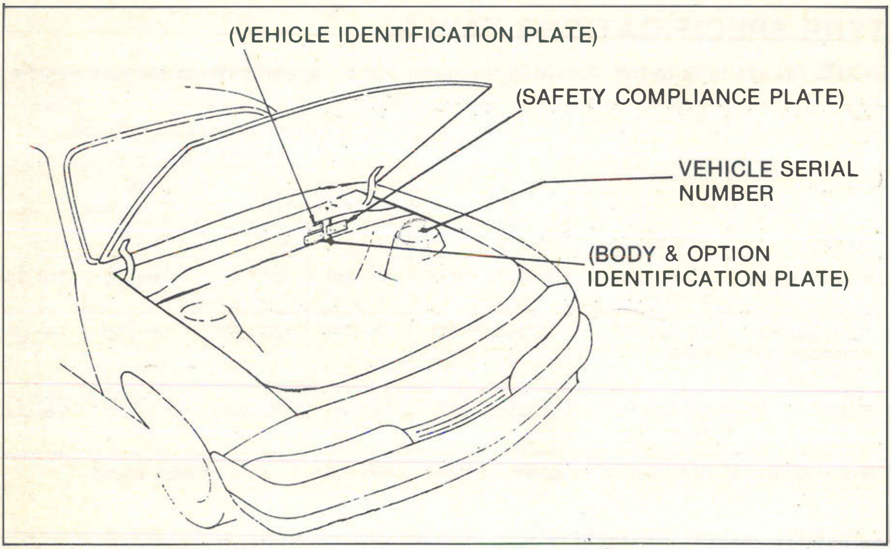
Recommended Wheel Nut Torque is 100-108 Nm (75-80 ft. lbs.).

Dimensions

		SEDAN			WAGON	
		SL	BERLINA	CALAIS	SL	BERLINA
Length (mm)		4766	4766	4766	4763	4763
Width (mm)		1722	1722	1722	1722	1722
Height (mm)		1367	1363	1366	1389	1385
Wheelbase (mm)		2668	2668	2668	2668	2668
Minimum running ground clearance(mm)		155.5	152.5	161.5	151.5	151.0
Turning Circle	Power	10.7m	10.7m	10.7m	10.7m	10.7m
	Manual	10.2m	10.2m	10.2m	10.2m	10.2m
Track	Front (mm)	1451.3	1451.3	1451.3	1451.3	1451.3
	Rear (mm)	1416	1416	1416	1440.0	1440.0

Vehicle weight chart, refer page 130

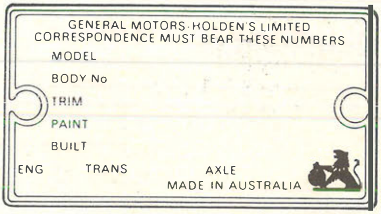
IDENTIFICATION NUMBERS


(VEHICLE IDENTIFICATION PLATE)
(SAFETY COMPLIANCE PLATE)
VEHICLE SERIAL NUMBER
(BODY & OPTION IDENTIFICATION PLATE)

Body and Option Identification Plate

The plate shows body style, body serial number, paint and trim colour combination, paint number, engine transmissions, axle ratio options and built date.

The built date is defined as "the date of manufacture" by calendar month and year in which the body shell and power train sub-assemblies are co-joined and the vehicle is driven or moved from the production line.


GENERAL MOTORS-HOLDEN'S LIMITED
CORRESPONDENCE MUST BEAR THESE NUMBERS
MODEL
BODY No
TRIM
PAINT
BUILT
ENG
TRANS
AXLE
MADE IN AUSTRALIA

Vehicle Serial Number

(Chassis Number)

This number is stamped into the top surface of the left (passenger) side front suspension strut tower.

Engine Number Stamp

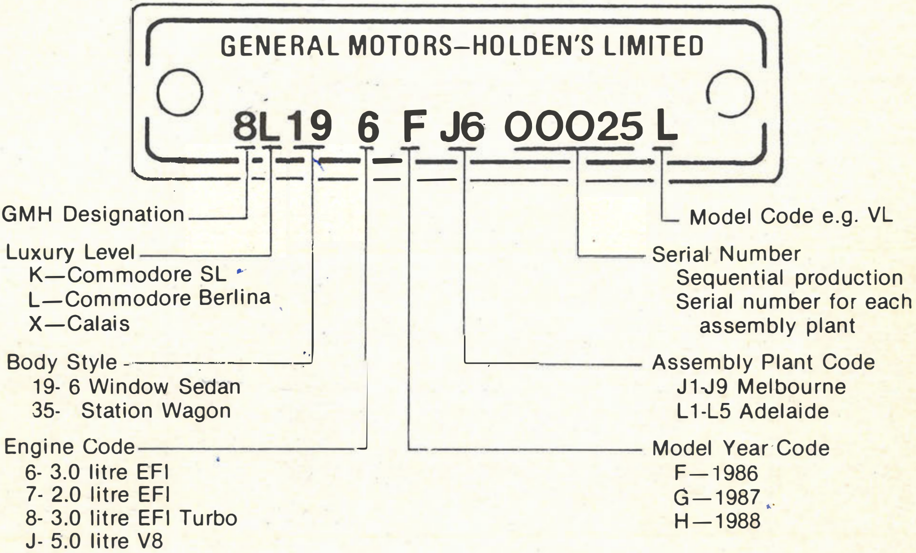
Individual identification numbers are stamped onto every engine.

—6 cylinder: on a flat surface on the forward, lower area of the driver's side of the engine block.

—8 cylinder: on the engine block, above the dipstick.

& PLATES

Vehicle Identification Number (V.I.N.) Plate


GENERAL MOTORS—HOLDEN'S LIMITED
8L19 6 F J6 00025 L

GMH Designation

Luxury Level
  K—Commodore SL
  L—Commodore Berlina
  X—Calais

Body Style
  19- 6 Window Sedan
  35- Station Wagon

Engine Code
  6- 3.0 litre EFI
  7- 2.0 litre EFI
  8- 3.0 litre EFI Turbo
  J- 5.0 litre V8

Model Code e.g. VL

Serial Number
  Sequential production
  Serial number for each
  assembly plant

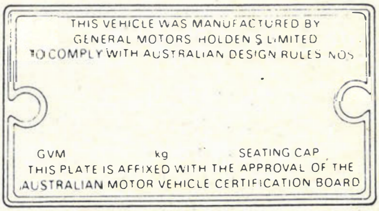
Assembly Plant Code
  J1-J9 Melbourne
  L1-L5 Adelaide

Model Year Code
  F—1986
  G—1987
  H—1988

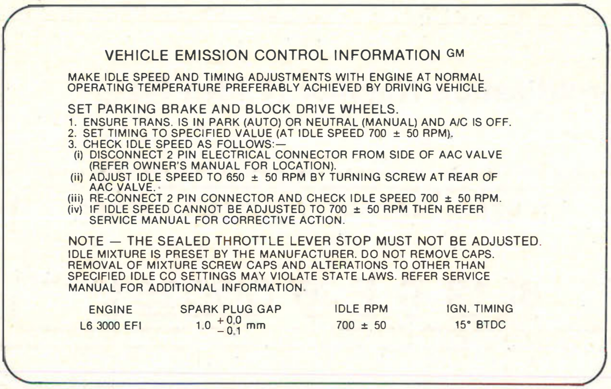
Therefore model codes are as follows:—
8K19 Commodore SL Sedan
8K35 Commodore SL Wagon
8L19 Commodore Berlina Sedan
8L35 Commodore Berlina Wagon
8X19 Calais Sedan

Safety Compliance Plate

Shown on the plate are the vehicle Make, Model Name and Style, Month and Year of Manufacture, Vehicle Serial Number, approved seating capacity and the Australian Design Rules with which the vehicle complies.


THIS VEHICLE WAS MANUFACTURED BY
GENERAL MOTORS HOLDEN'S LIMITED
TO COMPLY WITH AUSTRALIAN DESIGN RULES NOS
GVM
kg
SEATING CAP
THIS PLATE IS AFFIXED WITH THE APPROVAL OF THE
AUSTRALIAN MOTOR VEHICLE CERTIFICATION BOARD

EMISSION CONTROL



VEHICLE EMISSION CONTROL INFORMATION GM

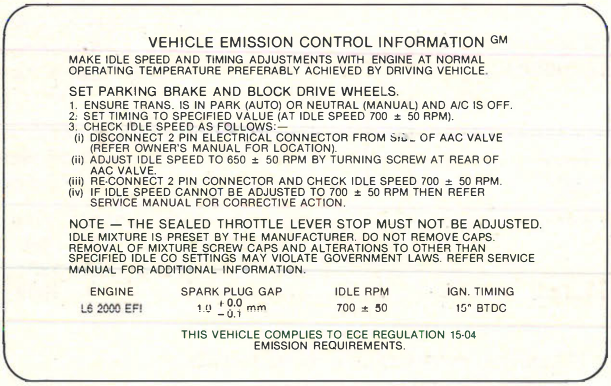
MAKE IDLE SPEED AND TIMING ADJUSTMENTS WITH ENGINE AT NORMAL OPERATING TEMPERATURE PREFERABLY ACHIEVED BY DRIVING VEHICLE.

SET PARKING BRAKE AND BLOCK DRIVE WHEELS.

1. ENSURE TRANS. IS IN PARK (AUTO) OR NEUTRAL (MANUAL) AND A/C IS OFF.
2. SET TIMING TO SPECIFIED VALUE (AT IDLE SPEED 700 ± 50 RPM).
3. CHECK IDLE SPEED AS FOLLOWS:—
   (i) DISCONNECT 2 PIN ELECTRICAL CONNECTOR FROM SIDE OF AAC VALVE (REFER OWNER'S MANUAL FOR LOCATION).
   (ii) ADJUST IDLE SPEED TO 650 ± 50 RPM BY TURNING SCREW AT REAR OF AAC VALVE.
   (iii) RE-CONNECT 2 PIN CONNECTOR AND CHECK IDLE SPEED 700 ± 50 RPM.
   (iv) IF IDLE SPEED CANNOT BE ADJUSTED TO 700 ± 50 RPM THEN REFER SERVICE MANUAL FOR CORRECTIVE ACTION.

NOTE — THE SEALED THROTTLE LEVER STOP MUST NOT BE ADJUSTED.
IDLE MIXTURE IS PRESET BY THE MANUFACTURER. DO NOT REMOVE CAPS. REMOVAL OF MIXTURE SCREW CAPS AND ALTERATIONS TO OTHER THAN SPECIFIED IDLE CO SETTINGS MAY VIOLATE STATE LAWS. REFER SERVICE MANUAL FOR ADDITIONAL INFORMATION.

ENGINE	SPARK PLUG GAP	IDLE RPM	IGN. TIMING
L6 3000 EFI	$1.0^{+0.0}_{-0.1}$ mm	700 ± 50	15° BTDC



VEHICLE EMISSION CONTROL INFORMATION GM

MAKE IDLE SPEED AND TIMING ADJUSTMENTS WITH ENGINE AT NORMAL OPERATING TEMPERATURE PREFERABLY ACHIEVED BY DRIVING VEHICLE.

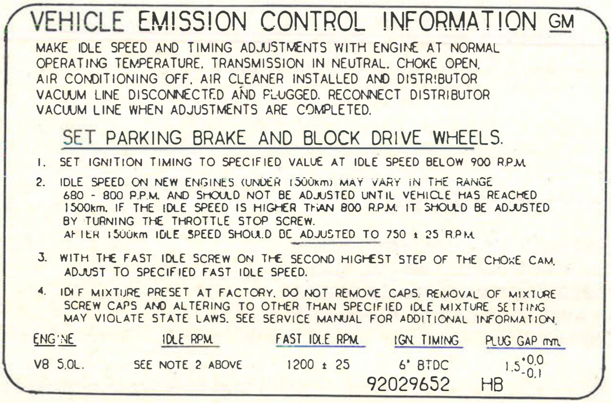
SET PARKING BRAKE AND BLOCK DRIVE WHEELS.

1. ENSURE TRANS. IS IN PARK (AUTO) OR NEUTRAL (MANUAL) AND A/C IS OFF.
2. SET TIMING TO SPECIFIED VALUE (AT IDLE SPEED 700 ± 50 RPM).
3. CHECK IDLE SPEED AS FOLLOWS:—
   (i) DISCONNECT 2 PIN ELECTRICAL CONNECTOR FROM SIDE OF AAC VALVE (REFER OWNER'S MANUAL FOR LOCATION).
   (ii) ADJUST IDLE SPEED TO 650 ± 50 RPM BY TURNING SCREW AT REAR OF AAC VALVE.
   (iii) RE-CONNECT 2 PIN CONNECTOR AND CHECK IDLE SPEED 700 ± 50 RPM.
   (iv) IF IDLE SPEED CANNOT BE ADJUSTED TO 700 ± 50 RPM THEN REFER SERVICE MANUAL FOR CORRECTIVE ACTION.

NOTE — THE SEALED THROTTLE LEVER STOP MUST NOT BE ADJUSTED.
IDLE MIXTURE IS PRESET BY THE MANUFACTURER. DO NOT REMOVE CAPS. REMOVAL OF MIXTURE SCREW CAPS AND ALTERATIONS TO OTHER THAN SPECIFIED IDLE CO SETTINGS MAY VIOLATE GOVERNMENT LAWS. REFER SERVICE MANUAL FOR ADDITIONAL INFORMATION.

ENGINE	SPARK PLUG GAP	IDLE RPM	IGN. TIMING
L6 2000 EFI	$1.0^{+0.0}_{-0.1}$ mm	700 ± 50	15° BTDC

THIS VEHICLE COMPLIES TO ECE REGULATION 15-04
EMISSION REQUIREMENTS.



VEHICLE EMISSION CONTROL INFORMATION GM

MAKE IDLE SPEED AND TIMING ADJUSTMENTS WITH ENGINE AT NORMAL OPERATING TEMPERATURE, TRANSMISSION IN NEUTRAL, CHOKE OPEN, AIR CONDITIONING OFF, AIR CLEANER INSTALLED AND DISTRIBUTOR VACUUM LINE DISCONNECTED AND PLUGGED. RECONNECT DISTRIBUTOR VACUUM LINE WHEN ADJUSTMENTS ARE COMPLETED.

SET PARKING BRAKE AND BLOCK DRIVE WHEELS.

1. SET IGNITION TIMING TO SPECIFIED VALUE AT IDLE SPEED BELOW 900 R.P.M.
2. IDLE SPEED ON NEW ENGINES (UNDER 1500km) MAY VARY IN THE RANGE 680 - 800 R.P.M. AND SHOULD NOT BE ADJUSTED UNTIL VEHICLE HAS REACHED 1500km. IF THE IDLE SPEED IS HIGHER THAN 800 R.P.M. IT SHOULD BE ADJUSTED BY TURNING THE THROTTLE STOP SCREW.
   AFTER 1500km IDLE SPEED SHOULD BE ADJUSTED TO 750 ± 25 R.P.M.
3. WITH THE FAST IDLE SCREW ON THE SECOND HIGHEST STEP OF THE CHOKE CAM, ADJUST TO SPECIFIED FAST IDLE SPEED.
4. IDLE MIXTURE PRESET AT FACTORY. DO NOT REMOVE CAPS. REMOVAL OF MIXTURE SCREW CAPS AND ALTERING TO OTHER THAN SPECIFIED IDLE MIXTURE SETTING MAY VIOLATE STATE LAWS. SEE SERVICE MANUAL FOR ADDITIONAL INFORMATION.

ENGINE	IDLE RPM	FAST IDLE RPM	IGN TIMING	PLUG GAP mm
V8 5.0L.	SEE NOTE 2 ABOVE	1200 ± 25	6° BTDC	$1.5^{+0.0}_{-0.1}$

92029652 HB

EMISSION CONTROL

Your vehicle is fitted with emission control systems which are designed to reduce the amount of hydrocarbons (HC), carbon monoxide (CO), and oxides of nitrogen (NO_x) that are emitted from the engine and fuel system into the atmosphere. Hydrocarbons and oxides of nitrogen, when exposed to sunlight under certain conditions, produce photochemical smog. In addition, carbon monoxide is toxic when it becomes highly concentrated in the air.

The three major emission control systems fitted to your vehicle are:

1. **Evaporative Emission Control System (Australian Vehicles Only)**
   This system is designed to prevent the escape of fuel vapours from the fuel system and recycle them through the normal combustion process.
2. **Crankcase Emission Control System**
   This system is designed to prevent blow-by gases from escaping into the atmosphere and recycle them through the combustion process.
3. **Exhaust Emission Control System**
   Each type of engine has different components, designed to limit HC, CO and NOx emissions in the exhaust gas.

3.0 Litre	V8	2.0 litre (Export)
Electronic Spark Advance Control	Exhaust Gas Recirculation	Electronic Spark Advance Control
Intake Manifold Vacuum Control	Air Pre-heat	Intake Manifold Vacuum Control
Cooling System Thermostat	Cooling System Thermostat	Cooling System Thermostat
Idle Speed Control System	Early Fuel Evaporation	Idle Speed Control
Catalytic Converter	Catalytic Converter	
Closed Loop Mixture		

OWNER RESPONSIBILITY

(for vehicles sold and serviced within Australia)

Your vehicle's emission control systems have been designed to meet the requirements of Australian Design Rules and State Regulations.

(for 2.0 E Export models)

2.0 E six cylinder models for export comply with the ECE R15-04 Emission requirement.

To ensure that these components achieve their purpose of controlling the emission of pollutants to the atmosphere, the engine or exhaust system of your vehicle must **not** be modified in any way. Any departure from the manufacture's design specifications may increase the emissions or otherwise defeat the intent of the regulations.

IMPORTANT: ANY PERSON WHO REMOVES, MODIFIES OR OTHERWISE RENDERS INEFFECTIVE ANY EMISSION CONTROL COMPONENTS FITTED TO A VEHICLE WILL BE CONTRAVENING THE RELEVANT REGULATIONS AND BE GUILTY OF AN OFFENCE UNDER THE REGULATIONS. ANY PERSON WHO OWNS AND/OR OPERATES SUCH A VEHICLE COULD ALSO BE GUILTY OF AN OFFENCE UNDER THE REGULATIONS.

MAINTENANCE REQUIREMENTS

To ensure continuing compliance with the regulations it will be necessary for you to maintain your vehicle's emission control system in accordance with the instructions given in the GMH Maintenance Plan (refer Section 6) and the relevant Service Manuals.

It is recommended that the necessary servicing be performed by an authorised GMH Dealer who has the specialised servicing equipment and trained personnel available to ensure that the adjustments and services specified are carried out.

SECTION 10

APPEARANCE CARE

page 163 —Cleaning Upholstery

page 164 —Cleaning Carpet

page 164 —Cleaning Seat Belts

page 164 —Cleaning Ash Trays

page 164 —Cleaning Interior Glass

page 167 —Cleaning Exterior

page 166 —Removing Grease, Oil & Tar Spots

page 167 —Polishing Exterior

page 167 —Cleaning Chromium Plated Parts

page 167 —Cleaning Exterior Glass

page 168 —Cleaning Tyres & Wheels

page 169 —List of Appearance Care & Maintenance Materials

INTERIOR CLEANING

CAUTION: Many cleaners may be toxic or flammable, or may cause damage to the interior. When cleaning the interior, do not use volatile cleaning solvents such as: acetone, lacquer thinners, enamel reducers, nail polish removers; or such cleaning materials as laundry soaps, bleaches or reducing agents. Never use carbon tetrachloride, gasoline or naphtha for any cleaning purpose.

Be sure the vehicle is well ventilated while using any cleaning agents. Follow the manufacturer's recommendations when using such products.

Care and Cleaning of Upholstery

Dust and dirt particles which accumulate on the surface of the interior trim should be removed every few weeks—more often with constant hard driving. This can be done readily with a vacuum cleaner. Before attempting to remove spots and stains from an upholstery fabric, it is necessary to determine as accurately as possible:

1. The type of fabric.
2. The nature and age of the stain.
3. The effect of the stain removal agent upon the colour, structure and general appearance of the trim material.

It is essential that stains be removed from the trim material as soon as possible after they have been made. If they are allowed to remain on the fabric for any length of time they very often become oxidised or set, and removal becomes difficult, if not impossible.

The use of AC Delco spot and stain remover will assist in the above.

After cleaning or better still before using the vehicle, apply AC Delco Fabric Protector to maintain a fresh clean appearance and to protect the fabric from further soiling.

Cleaning P.V.C. Coated Fabrics

Vinyl (P.V.C.) coated fabrics are used for seating, headlining and auxiliary trimming. The grades used vary according to their function. P.V.C. fabrics are generally made with fabric bases upon which synthetic resins are applied. Care of P.V.C. fabrics is a relatively simple but important matter. The surface should be wiped over with a dry cloth during the regular cleaning of the vehicle.

Should dirt accumulate and become embedded in the material pattern the following procedure is recommended.

1. Using luke warm water and soap, or AC Delco Velour Fabric and Vinyl Cleaner, work up thick suds on a piece of cheesecloth, and apply to the surface. A soft bristle brush can be used to advantage to remove stubborn stains or dirt embedded in the grain of the material.
2. Repeat using only a damp cloth and no soap.
3. Wipe dry with a soft cloth.

The above cleaning instructions also apply to the rubber floor mats.

Cleaning Cloth Trim Material

Where the seats in your vehicle are upholstered with cloth the following instructions should be observed. Most loose dirt and dust can be removed by a vacuum cleaner or a soft brush. DO NOT USE a whisk broom or a coarse hair brush. If normal soiling should

INTERIOR CLEANING cont.

take place it is recommended that the fabric be sponged lightly with warm water containing a detergent and a small amount of ammonia. The fabric should then be rubbed lightly, and if necessary, sponged again to remove anything stubborn. Soak up excess fluid with dry cloth. AC Delco Velour Fabric and Vinyl Cleaner may be used to advantage, but should be used sparingly.

The application of AC Delco Fabric Protector when your vehicle is new will help to protect the fabric from oil, grease and water-borne stains.

Cleaning Leather Trim Material

To remove surface dust and grit, regularly wipe leather with 'Softly' in warm water using a soft cloth or sponge. Clean leather every 3 months with a mild saddle soap and a damp soft cloth, to remove in-ground dirt which is not visible. Allow leather to dry naturally and apply a colourless beeswax dressing.

Do not use detergents, solvents, abrasives, spray packs or unidentified leather cleaners or suede cleaners.

Cleaning Carpet

Thoroughly brush or vacuum the carpet. In many instances the carpet may require no further cleaning. If the carpet is extremely soiled, thoroughly vacuum it to remove loose dirt then using AC Delco Velour Fabric and Vinyl Cleaner, clean approximately one square foot at a time. After each area is cleaned remove as much of the cleaner as possible with a vacuum cleaner. After cleaning the carpet, use an air hose to fluff the carpet pile, then dry the carpet. After the carpet is completely dried, use an air hose to again fluff the carpet pile.

Cleaning Seat Belts

Cleaning of the seat belts can be carried out by using a mild non-abrasive soap and luke warm water. After washing be sure to thoroughly sponge the washing solution out of the belts.

CAUTION: Do not bleach or dye belts since this may severely weaken them.

Cleaning Ash Trays

Insert Type

To remove, open the lid of the ash tray and use the lid to pull out the ash tray complete. The tray can then be emptied and cleaned. To replace, reverse the procedure.

Tilt-Open Type

To remove, open ash tray, depress the spring loading tab in centre and carefully withdraw. The tray can then be emptied and cleaned. To replace, reverse the procedure.

Cleaning Interior Glass

The interior glass area of the vehicle should be cleaned using AC Delco Glass Cleaner with a clean soft cloth. Care must be taken when cleaning inside the rear windscreen so as not to damage the heating element.

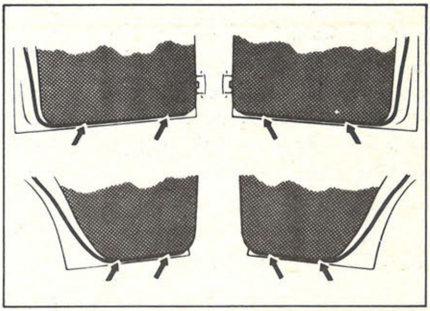
Never use abrasive cleaners on any car glass, as they may cause scratches.

EXTERIOR CLEANING

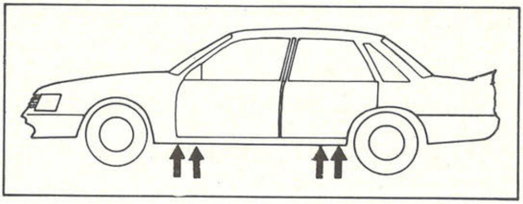
CAUTION: Care should be used when moving the vehicle after washing, in case water has affected the brakes. Refer to caution in Section 2—"Starting & Driving Your Vehicle" for procedure to follow if water gets into your brakes.

Before washing the paintwork on your vehicle check that the door drain holes and rocker sill vents are not blocked. Also the underbody should be cleaned to remove deposits of mud and corrosive products.

1. **Underbody Cleaning**
   The effects of salts and other corrosive materials from road surfaces can result in accelerated rusting and deterioration of underbody components such as brake and fuel lines, frame, underbody floor pan, exhaust system, brackets, parking brake cables. These corrosive effects, however, can be reduced by periodic hosing of the underbody with plain water whenever the vehicle is being washed. In geographical areas having a heavy concentration of corrosive materials it is recommended that the complete underbody be inspected and washed at least once each year, preferably after a winter's exposure. Particular attention should be given to cleaning out underbody members where dirt and other foreign materials may have collected.



2. **Door Drain Holes**
   It is important that the drain holes at the bottom of the door panels are checked to make sure that they are free of dirt and foreign matter, which could trap water inside the panels. Clogged drain holes can be cleaned with a small screwdriver and these drain holes are angled back towards the rear of the vehicle. (Refer illustration.)
3. **Rocker Sill Vents**
   In all models there are vents which should be regularly checked to see that they are clear of blockage, using a blunt ended instrument. These vents are formed as cutouts in the sheet metal along the bottom edge of the rocker sill. (Refer illustration)



10—'Appearance Care'—EXTERIOR CLEANING cont.

Washing Paintwork

The acrylic lacquer finish on your vehicle is superior to ordinary lacquers and will stay bright and new looking for years with little or no polishing, provided it is given a reasonable amount of regular washing to keep off road grime.

Washing not only removes dirt and road grime that settles on the vehicle, but also dilutes acids which accompany such grime, in particular, salt from air or sea spray encountered in coastal areas which often become trapped in crevices. Tree sap, road tar, excretion from insects and industrial fall out often contain harmful chemicals and other foreign matter that may permanently damage the paint finish of the vehicle. These could be removed without delay, using an effective removal agent.

Regular Washing

If the vehilce is in continuous use, it should be washed at least once a week with either cold or warm water (preferably running water), using clean chamois leathers, sponges or rags free from dirt or grit likely to scratch the paint finish. It is good practice to first hose the vehicle to remove as much of the grit and grime as possible before swabbing the surface. Do not wash the vehicle under bright sunlight when high temperatures are being experienced, as this will result in a streaky, watermarked finish.

AC Delco Wash and Wax loosens road grime to make washing easier and leaves paint shining clean.

Do not use hot water, strong soap or chemical detergents. Any cleaning agent used should be flushed promptly from the surface and not allowed to dry on the finish.

Removing Grease, Oil and Tar Spots

Grease and oil, and even tar if it's fresh, can be removed from the finish with a little Kerosene or White Spirits. As a precaution against staining, wash and polish as soon as possible the area from which the foreign matter has been removed.

WARNINGS:

(1) Some chemical cleaners used for removing road oils and tars from painted surfaces have been found to be detrimental to acrylic finishes. When purchasing a cleaner, polish or wax ensure that it can be safely used on an acrylic finish.

(2) If petrol is spilt on the paint finish when refilling, owners are advised to ensure that it is flushed off with clean water immediately. The reason is that petrols have a tendency to stain or soften new paint finish during the weathering out period, particularly when the vehicle is exposed to high temperatures.

Insect Spots

Insect spots on the paint finished parts of the vehicle can be easily washed off by using a solution containing 1 litre of water in which approximately 110 grams of baking soda (Bicarbonate of Soda) has been dissolved. Flush the washed parts with clean water.

Polishing

Even though the acrylic lacquer finish on your vehicle is more durable than ordinary lacquers, under certain conditions you may wish to polish your vehicle to provide maximum protection against road dirt and industrial fall out etc. Also, the application of a polish may be required to remove foreign matter which is not normally removed from vehicles by washing. Over a period of time, such foreign matter may build up on the paint surface to the detriment of its overall appearance.

DO NOT ATTEMPT TO APPLY A POLISH WITHOUT FIRST WASHING TO REMOVE EXISTING LOOSE GRIT, SURFACE DIRT, DUST OR GREASE ETC.

It is recommended that AC Delco cleaner and polish be used for the first 3-6 months after vehicle purchase, and thereafter either AC Delco Liquid Silicon Polish or AC Delco Polishing Cream for a deep, rich shine. Use as directed on the container.

Painted plastic bumpers or body side mouldings may be cleaned and polished according to the instructions given above for vehicle paintwork.

Paint Work Inspection

Regular inspection of the vehicle should be made for scratch marks, cracks or damaged areas, all of which could develop rust and thus affect paint finish. Any deep scratches, cracks or break-down in the finish should be repaired without delay. Care should be taken to ensure that any rusting is counteracted immediately, otherwise rust "creep" will extend beyond the damaged the area. This applies particularly in sub-tropical areas or coastal districts, where the moist or salt-laden atmosphere accelerates rusting if it is allowed to develop through neglect. The paint finish of the vehicle gives a very high degree of protection against the weather, but it should be realised that wear and deterioration occur when the vehicle is exposed to elements for prolonged periods. The vehicle therefore should be garaged whenever possible.

Chromium Plated Parts

Generally, a rub with a clean soft cloth will be all that is necessary to remove dust from the chromium plated parts. However, if the chromium is covered with dead insects or mud, it should be washed with warm soapy water and then cleaned with AC Delco Polishing Cream. This polish should also be used if the chromium shows signs of tarnishing. Do not use ordinary metal polishes as they may contain abrasives which would ruin the plating.

Glass Cleaning—General

Special care should be taken to avoid scratching the glass when it is being cleaned. If it is cleaned at the same time as the rest of the vehicle, there is a possibility that particles of grit will cause fine scratches. Flush off any heavy mud deposits on the glass when washing the body, but leave the final cleaning and polishing until afterwards. Use AC Delco Glass Cleaner and wash each section of glass in turn, making sure that the water, its container and the sponge are quite clean and free from grit. Clean old linen cloth is better than new material for polishing glass.

EXTERIOR CLEANING cont.

Windscreen Cleaning

It is important, at all times, that the windshield surface be maintained in a clean condition so that the wiper blades may be as effective as possible in wiping clean the surface. Old wiper blades can cause windscreen scratching therefore they should be inspected regularly and replaced as necessary.

Abrasive materials must never be used to clean glass as they can cause scratches. A scratched windshield will cause difficulty in achieving proper vision, particularly in night driving. After the windshield has been cleaned with a wet sponge etc., it should be wiped over with a soft lint free cloth or chamois.

It is recommended that AC Delco Optikleen be added to the windscreen washer reservoir to assist the wipers in keeping the windshield clean whilst driving.

Wiper Blades—Cleaning

Much of the oil road scum thrown up onto the windshield glass, causing smearing when the wiper is switched on, transfers onto the wiper blade. Many owners, whilst they methodically clean the windshield glass, omit to clean the wiper blades and consequently smearing of the glass re-appears immediately the wiper blades are set in motion. The blades can be cleaned by simply lifting them off the windshield glass and then using warm water and a recognised washing fluid. If so desired, the wiper blade can be removed from the arm for cleaning purposes by simply disengaging it from the arm in accordance with the following instructions—

1. Lift up tab at the end of the arm and remove blade sideways.
2. To replace, slide the blade pin into the hole in the arm clip, noting an audible click.

IMPORTANT: Do not operate the wiper blades by hand as this may damage the wiper drive mechanism.

In dry conditions, if the wiper blades are used to clean dust and dirt from the windshield always use the washer system to wet the windshield. Ensure that the windshield washer reservoir is checked regularly all the year round.

Should the wiper blades be frozen to the windshield, it is imperative that they be lifted off and freed by hand before switching on the windshield wiper system.

Tyres

Sponging with cold water is all that is necessary for normal cleaning of the tyres. Oil and grease can, and should be removed with soap and water or detergent. For tar or other substances, a mild abrasive, such as mechanics' hand soap or kitchen cleaning powder, may be used if necessary. Thoroughly wash the tyres with water to finish. Petrol must not be used for cleaning tyres.

New tyre look can be restored by using AC Delco Tyre Black.

Cleaning Alloy Wheels

To preserve the original appearance of alloy wheels (where fitted) keep them clean and free from build up of road dirt. AC Delco Mag Wheel Cleaner can be used for cleaning most alloy wheels, however, it is not suitable for cleaning highly polished alloy wheels. (Refer to instructions on can). Do not use abrasive cleaners, as they could damage the protective coating.

10—'Appearance Care'—CARE & MAINTENANCE MATERIALS

GMH PART NO.	SIZE	DESCRIPTION	USAGE
M37432	390 × 370mm	Synthetic Chamois	Absorbs water and cleans paint, glass and chrome surfaces.
M37226	375ml	Wash & Wax	Cleans away dirt and grime at the same time adds a lustrous shine.
M37221	375ml	Liquid Silicon Polish	Imparts a high gloss, long lasting shine.
M38695	250ml	Glass Cleaner	Cleans all glass surfaces.
M37933	500ml	Optikleen	Windshield washer solvent.
M38692	250ml	Mag Wheel Cleaner	Cleaning of all magnesium alloy wheels.
M38693	400g	Fabric Protector	Repels oil, grease and water-borne stains on most fabrics.
M38424	350g	Velour Fabric and Vinyl Cleaner	Cleans and deodorises velour, most fabric and vinyl upholstery, hood linings, mats and carpets.
M38696	250ml	Vinyl and Rubber Conditioner	Preserves and protects vinyl, leather and rubber.
M37429	304 × 250mm	Demister Cloth	Delays formation of mist on treated glass surfaces.
M38694	250ml	Tyre Black	Low-sheen natural rubber finish for tyres.
M37223	400g	Degreaser	Removes oil and grease from motors.
M37225	175g	AC-4	—Dispenses moisture on wet motors and electrical components. —Penetrates and loosens rusted or seized parts. —Lubricates and protects against corrosion. —Inhibits corrosion on battery terminals.
M33028	27g	Solid Oil	Lubricant for locking mechanisms, door hinges, sticking windows.
M39168	100ml	Car Freshener/ Deodorant	Removes smells, tobacco and other odors.
M39169	250ml	Spot and Stain Remover	Removes spots and stains from carpet, velour, vinyl and most fabrics.
M39219	1 Litre	Cleaner and Polish	Recommended for use in the first 3-6 months after vehicle purchase. Maintains a lasting, lustrous finish.

10—'Appearance Care'—CARE & MAINTENANCE MATERIALS cont.

92026651	500ml	Brake Fluid	Extra heavy duty for use at brake service.
1050002	470ml	Top Engine Cleaner	Purges gum, carbon, varnish and sludge from internal parts.
M39304	500ml	Radiator Cleaner	Use prior to using or replacing coolant/inhibitor
M39288	1 Litre	Radiator Coolant/ Inhibitor	Inhibitor Provides year-round protection against corrosion and rust.
M39338	4 litre	"	Anti-freeze lowers the freezing point for the cold winter months. Coolant increases the boiling point of the cooling system for the summer months.
M39290	20 litre	"	

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FUEL

CAUTION: Petrol is extremely flammable and highly explosive under certain conditions. Always stop the engine and do not smoke or allow open flames or sparks near the vehicle when refuelling. If petrol fumes are noticed while driving, the cause should be determined and corrected without delay.

The fuel cap is located behind a hinged door on the driver's side, just behind the rear wheel arch. To remove the fuel cap turn it anti-clockwise. If your vehicle has locking fuel cap then use the master key to unlock it before turning cap in anti-clockwise direction.

EXPORT vehicles are designed to operate on a good quality clean fuel of 97 Octane Rating.

Vehicles operated in AUSTRALIA must use a good, clean, UNLEADED FUEL of at least 91 octane rating (Research Octane Number), as indicated by the label on the fuel cap. The use of any other fuel will seriously damage the fuel system of your car (particularly the catalytic converter) and may void your Warranty.

A fuel filler nozzle restrictor is fitted to Australian vehicles to ensure that UNLEADED fuel is used. This allows the thinner, unleaded fuel filler nozzle to open the hinged flap, so that fuel may be added to the fuel tank. The leaded, fuel filler nozzle is wider and therefore cannot open the flap.

Note that the use of unleaded petrol results in black tail pipe deposits rather than the grey colour with which most people are familiar. The black colour does not, therefore, indicate a state of poor engine tune.

Overfilling of the fuel tank can affect the evaporative Emission Control System.

To avoid this, the following recommendations are made:

1. Fuel tanks should always be filled at the intermediate or fast fill rate. After initial shut-off (or vent blow back) no further fuel should be added. This retains the tank's ability to accommodate fuel expansion.
2. It is permissible to "trickle fill" fuel tanks where vehicles are to be driven for a distance of at least 50 km shortly after the tank is filled.

TANK CAPACITIES
Sedan—63 litres
Wagon—68 litres

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